Subdivision and Reorganization of Universities in Maharashtra in the Context of Globalization



Education for Social Development and Creating Futures

Report by the Committee (3) on Subdivision of Universities in Maharashtra State, appointed by Government of Maharashtra

August 2011

Report

Education for Social Development and Creating Futures

Submitted By

Professor Ram Takwale,

Chairman,

Committee (3) on Sub-division of Universities in Maharashtra State

Appointed by the Department of Higher and Technical Education,

Government of Maharashtra

August 2011

Chairman's Letter to the Minister of Higher and Technical Education, Government of Maharashtra

To

Honourable Shri Rajesh Tope,

Minister for Higher and Technical Education,

Government of Maharashtra, **Mantralaya**,

Mumbai.

Subject: **Submission of the Report of Committee-3 on Sub-division of Universities in Maharashtra**

Dear Sir,

It is a great pleasure and privilege for us, me and my Committee members, to submit the Committee-3 Report on the Sub-division of General Public Universities in Maharashtra entitled as 'Education for Social Development and Creating Futures'.

The Committee was given the task of suggesting sub-division and creation of small and efficiently working Universities for offering higher quality education and research in the context of globalisation with educational relevance for student's to national and international employment. We were also asked to consider measures for increasing GER, giving equality of opportunity and ensuring justice for students from all over Maharashtra.

These contradictory requirements could not be tackled by the approaches of the 19^{th} - 20^{th} century models of university education and needed radically different approaches. With the help of the Main Committee and Committee-2, we could evolve a paradigm of New Education in the emerging connected society through Information Communication Technologies and use of Innovation Eco-System with e-Platform. We have suggested measures that will help ensure not only the requirements of Terms of Reference but also offer learner and learning centric higher education. Creation of District-wise autonomous University Campuses and Autonomous Colleges well supported by the Central Structure facilitations could ensure not only educational autonomy but also link education with social development for creating FUTURES for the young generation. We need radical reconstruction of present education system to be able to approach and solve the existing problems of poverty, disparities and ignorance; and future problems of post-industrial society progressing towards society based of culture and innovation.

By considering all concerning nature of the Report, we request you to make the Report open for public information and feedback. We consider and hope that the progressive and modern

Government of Maharashtra would give all the essential support to the creation of new education for social development and for creating futures for our people, the dream of our social reformists and committed educationists of Maharashtra.

We place on record our sincere thanks to you and the Department of Higher & Technical Education, and Vice Chancellor of Mumbai University Dr. Rajan Velukar and his Staff for supporting us and in making Committee-3 deliberations successful.

With best personal regards,

Sincerely yours,



Ram Takwale

Chairman, Committee (3)

Emeritus Professor and President, I-CONSENT

August 5, 2011

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Letter to the Chairman of Main Committee (1)

Dr. Anil Kakodkar

Chairman, Main Committee (1)

Dear **Dr Anil Kakodkar**,

I am submitting the Final Report to the Main Committee for its considerations and approval. Almost all the aspects that need to be included for starting the implementation are incorporated herein. The Committee-3 has authorized me to submit the report to you for final approval and onward submission to the Minister for Higher and Technical Education.

The Brief of the Committee-3 Report on the sub-division of universities was already submitted to you and has been approved by you and included in the Main Report. Now there is uniformity in the top structure of all the Reports, though some distinctions may remain in the lower level, university and college level structures.

I really appreciate the method you employed in evolving system of educational paradigm through discursive approach, in which many new ideas and approaches were evolved and integrated into an unified system of higher education appropriate for the New Age Connected Society.

We have discussed the central structure of the global/central-local model with Chairman of Comm-2 and we have uniformity in the top structure.

In order to give supportive details to the Main Report which contains the main ideas and methods and structures, we have given in the Recommendations the details that will make the two, in fact the three Reports complimentary and would have higher value for implementation.

On Sub-division of public affiliating Universities in Maharashtra, we have found a new way of supporting sub-division by formation of:

1. Autonomous University Campuses at each district, as and when need arises
2. Making each college autonomous so as to take the responsibility of their student's self and social development and their career development

The Central support of MAHED will be playing great equalisation and promotion role for quality and facilitations required for quality education. However, the learning and development of a student becomes the sole responsibility of the teachers and the college. The College has therefore to raise continuously their level of development, excellence and autonomous status so as to become a competent educational institution for quality education. The total system is learner centric with a lot of autonomy to the learner in choosing courses and in goal and performance achievements.

I am circulating the Report to Main Committee and Committee -3 members.

It was a great pleasure working with you and all the Committee members.

With regards,

Sincerely yours,



Ram Takwale

Chairman, Committee (3)

Emeritus Professor and President, I-CONSENT

Pune, July 2011

Report Submission Statement by Committee-3 Members

It is a great pleasure and privilege for us to submit the Committee-3 Report on the Sub-division of general Public Universities for offering Quality Higher Education to all students of Higher Education in Maharashtra. We were concerned in sub-division of big universities with the quality and excellence of Higher Education offered by the sub-divided units, the paradigm shift in education coming up due to Digital Revolution and by the formation of new ICT (Information Communication Technology) connected society emerging with all-reaching mobile communication and higher generation broadband connectivity. We realised that the 19th - 20th century approach cannot be used now; and a new way of sub-division of universities has to be found in the globally connected people, who are breaking all the space-time, geographical and cultural barriers for connecting anyone, anywhere, anytime (A3 connected society). The A3 connected society behaves differently, works and creates differently, and has already started mass movements for creating open resources and creating situation of omnipresence of knowledge. Education now cannot be the same.

By following the ideas, ideals and models of work centric education proposed by great educationists and philosophers of India, we have proposed New Education System that can be suitable in the new scenario, in life-long-learning and developing and in linking education with employment generation and wealth creation as well as social transformation to be appropriate in the globalised knowledge economy and society.

We have been helped greatly by the discussions in the Main Committee-1 and suggestions by the Committee -2. In fact all our Reports of the three committees are supporting and complementary to each other. We are quite uniform and united in the creation of the Central Structure supporting autonomy and quality in all universities and colleges and our solutions to the sub-division of ten general public universities is into small autonomous university campuses and autonomous colleges. This approach we consider will go a long way to link education with social development and evolve variety of social developmental models of local relevance and usefulness, and in raising quality and excellence in Higher Education in Maharashtra.

We place on record our sincere thanks to the Minister of Higher & Technical Education, Honourable Shri Rajesh Tope, Former and Present Secretaries, Shri Mahesh Pathak and Shri Sanjeev Kumar, of the Department of H&T Education, and Shri Rajaram Jadhav, Joint Secretary, H&T Education.

We thank the Vice Chancellor of Mumbai University Dr. Rajan Velukar and Prof RS Hande, Director, BCUD and staff of the Mumbai University for supporting meetings of the Committee-3.

1. **Prof Ashok Kolaskar**

2. **Mrs Kumud Bansal**

3. **Dr. Gajanan Ekbote**

4. **Prin Madhukar Gaikawad**

5. **Dr Ram Mane**

6. **Dr Uday Salunke**

7. **Dr Pratap Borade**

8. Shri R G Jadhav

Nominee, Dept of H&T Education, MS

9. Dr. Rajan Welukar

Vice-Chancellor and Member Secretary

10. Dr. Ram Takwale

Chairman

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PREAMBLE

Maharashtra has a great tradition and culture of voluntary social service in education and social work. Education is always perceived as a modernising instrument of socio-economic transformation of society. The aspirations of taking education as a tool and instrument for change, for learning for life reconstruction with social and cultural goals; and is considered a way for progressing and enriching oneself and one's own people. This is also a struggle between self and selflessness, and efforts for getting a share of work and work- benefits for self, pariwar and 'our' community is the way of living and working. It has further become an attraction and basis of becoming powerful and wealthy, and obtain fair share for living, progressing and being happy and satisfied.

Education has, therefore, formed an instrument of progress and modernity, in using classical and new ideas, concepts, methods and approaches in working and using new tools and technologies in working, developing, creating and changing. A society develops and prospers on the basis of culture (attitudes, approaches and practices) and wealth created, and on working and using technologies for producing socially useful and productive work. This is a process of yoga and udyoga (industry). Living and working with a proper balance of culture of self and selfless life with voluntary work with selflessness and sacrifice by giving more to the society and taking less from it. Creativity and generosity displayed by each one as a trustee of what one creates, possesses and shares with others has formed the foundation of culture and prosperity of people and society.

Education is a life-long and life-centric learning process for knowing oneself, finding one's own intelligences and talents, and nurturing and developing them in one's personal and social life. This is also the basis of work one does, individually and in a group, and creates wealth, monetary, physical as well as non-monetary, and cultural enrichment of oneself and our society.

The new age, now getting formed with new digital technologies, which has formed a basis of globalisation and global communication, is now creating A3 (Anyone, Anytime, Anywhere) Connectedness with massification of technologies through mobile connectivity of higher and higher generations that uses now 2G and 3G connectivity, and will soon be going over to use 4G connectivity.

In this '*Age Transition'* from industrial society to post industrial society with A3 connectedness, forming education system that can help shape and reconstruct future society as well as futures of students and their learning and developing, is a great millennium challenge. We have ventured to suggest New Education using self-governance, self-development and work-centric learning and developing. This is a constructivist work-based learning and is now getting introduced at various levels of education (Activity Based Learning). The new system is to be developed by all, together in partnership with cooperative and collaborative work.

The Report development and presentation has been distributed among the three Committees. The Comm-1 has considered the approaches, polices and pathways for the reorganisation of Higher Education and New Education, and suggested Innovation Eco-System and e-Platform in A3 society based education system. The Comm-2 gives the regulatory and statutory structure for the New Education system, and Comm-3 has considered radical reconstruction of existing Higher Education, and suggested linkages of education with social development and social transformation. All the three Committees together give a way for the New Education to create Futures for our young generation and people, who are going to live and work in a New Society based on knowledge economy in a A3 connected and life-long learning society.

Our Committee-3 was given the task to consider the sub-division of universities into small autonomous units, new universities, for working efficiently and offering quality higher education. The Comm-3 considered the issues involved in the context of globalisation and newer ways of learning and developing that are now emerging in connected society. Our report and ideas were also developed in the long discussions we have had while finding new paths and broad ways for learning and developing. *For giving different ways and viewpoints encountered in the Committee deliberations and in finding the New Education, the Comm-3 Report has obviously become quite big. We have, therefore, reorganised presentation of the Report that can be divided into three parts covering:*

- *Executive summary and Recommendations*
- *Main Chapters of the Report – Chapter 1 through Chapter 7*
- *Enclosures 1 to 4*

We suggest readers for their fast reading to read part one, which gives longish but relatively brief account of the Report; and go to the Chapters in part two for details. In part two also, Chapter-7 gives more details of Report Implementation aspects. Part C gives details of ideas and structure for Innovation Eco-System and e-Platform suitable for selecting choice based course by learners, and existing Social Wealth creation programs by NSS students.

The Committee would like to thank Government of Maharashtra and particularly Shri Rajesh Tope, Hon. Minister for Higher and Technical Education for entrusting us with this very important assignment. Thanks are also due to Mumbai University and Higher and Technical Education Department for their support to committee's deliberations and work.

Such an important Report should be shared with all the concerned people of Maharashtra and outside. We, therefore, suggest sharing this Report on the Government Website with people of Maharashtra.

We sincerely consider and hope that this document will form an important approach to the reconstruction of the existing society and transformation of it into a new society through this transformative tool and technology of new social developmental education for social transformation.

Ram Takwale

Chairman, Committee-3

EXECUTIVE SUMMARY

Report by the Committee-3 on Sub-Division of Universities in Maharashtra Education for Social Development and Creating Futures

Terms of Reference for Sub-division of Universities

The Committee appointed for sub-division of universities in Maharashtra considered the observations and Terms of Reference in the GR Letter and equivalently considered the use of globalization to raise quality and excellence in higher education, to link education with employment and wealth creation, and to ensure equality and justice for all learners in Maharashtra for suggesting Sub-division of Universities in Maharashtra.

The Committee noted the huge burden of administrative and affiliating functions, of evaluation with centralised examination systems, and of the pressure of large number of students and colleges affiliated in the University Education system. The colleges are started with good social intentions of taking this modernising instrument to remote parts of Maharashtra for regional and social development. However, this expansion has degrading impact on the quality and relevance to education and research in Maharashtra.

The Committee has the difficult task of considering the current scenario of education, guidelines suggested by the National Knowledge Commission (NKC), various approaches proposed and also the social expectation from Higher Education to support higher GER, and also the emerging new socio-economic and technological scenario being created due to ICT (Information Communication Technology) or Digital Revolution. The total consequence of the Digital Revolution is the transition from the industrial to the post-industrial society, globalised and connected nature of the society and the new-liberalisation being acquired by the New Connected People. The 'age transition' is going on and may take couple of decades to mature and stabilise into a new social order. This has made the task of the Committee-3 very complex. To find out new paradigm of education, is to find educational processes independent of 19-20th century industrial technologies, and find those mechanisms of futuristic nature of digital technologies for designing a new paradigm of education. We have, therefore, to rely on the universal processes of learning, working, developing, creating, organising and socially transforming, and to create a new paradigm of education for creating 'FUURES'.

Current and Emerging Scenario

The number of university level institutions in Maharashtra has now increased to 42 out of which 22 are public universities and 20 are deemed universities. Out of total 3258 colleges, 2182 are of arts, science and commerce and the rest are professional and engineering colleges in addition to 178 polytechnics. The total enrolment is 32.83 lakh students (21 lakh in general colleges). The three big universities of Mumbai, Pune and Nagpur in the State alone account for 61 % colleges and 44 % student enrolment. Existing higher education has already created regional rural-urban disparities in development, increased differentials between poor-rich, rural-urban, developed-undeveloped and has no solution except the 'downward percolation of development' and inclusive approach and not based on equality and justice. The NKC norm of one university per 150 colleges will require new 26 universities by 2015, more than one per district. Further, the universalization of secondary education, rise in GER from existing 18 to 25-30 and covering the needs of the future learning society and knowledge economy may require higher education system that cannot be designed with more and more universities- the principle of 'more-of-the-same'. Obviously this is not an approach to the education for the New FUTURE Society, and needs complete new approach and way to address its higher education needs. The 19-20th Century way of educational expansion is not a suitable NOW in the 21st Century.

Emerging A3 Connected Society

Recent reports of TRAI (Telephone Regulatory Authority of India) inform that 875 million out of Indian population of 1200 million are already connected by telephony. Of these 827 million carry mobiles. Nearly one-third of these connections are in rural areas covering nearly 50% rural population. The number of mobile connected people is fast rising. A connected society with mobile connectivity is fast emerging NOW with 1G (G is technology generation for internet connectivity) and 2G broadband connectivity. By considering the rate and nature of growth of ICT (Information Communication Technologies), it is safe to predict that by year 2020, almost all will be connected with 3G and 4G Internet technologies. The mobile internet communication will dominate transfer of information and **A3 Connected Society** (A3 -Anyone, Anywhere, Anytime) will be well established. However, these emerging ICT technologies will take more than couple of decades to 'mature' and 'stabilise' to frequent changes and subversions and to become a part of the people's socio-economic and cultural life. The current society is highly in a transitional stage of going from industrial to the post-industrial society (post-modernity).

Radical Reconstruction of Higher Education Relevant to A3 Connected Society

During the last decade or two the global social scenario has undergone radical changes due to the subversive inventions and mass-marketing of the Information and Communication Technology (ICT) gadgets - mobile phones, tablet PCs, broadband connectivity, networked facilitation services, etc. New digital revolution in India has begun and A3 Connectedness is eliminating space-time separation, creating new processes of sharing, communicating and giving access to knowledge resources to all.

Mass communication tools and techniques have empowered people with access to open knowledge (Open Resource Movement), which can now be used for radical reconstruction of the system of Higher Education (Education Revolution). Connected society with its global reach, Open Resources of Knowledge, Social Networking movement through face book, blogs, Wikipedia etc. have created new ways of working together, sharing experiences and using various tools and technologies for learning and developing. Till recently considered as the only centers of Higher Education, available for students for their empowerment through learning, creating and developing, are becoming available on various websites and open and omnipresent knowledge resources. This has created entirely different scenario for learning, developing and value creation and requires radical reconstruction of education to be piggy bagged on the Digital Revolution.

The New Scenario requires not only creation of Educational Information Infrastructure reaching out to each learner in Maharashtra, but also incorporation of new university functions of connected society, the functions of social development and autonomous self-governance, besides the traditional three functions of the university - creation, preservation and dissemination of knowledge.

New Education for A3 Connected Society

Our search for New Education from existing Class Creating Education to Mass Participating Education in A3 Society was greatly supported by the great educationists of India, Mahatma Gandhi and J P Naik, with their universal approaches of life-centric education, work-centric learning and future-creating education. Our education paradigm is therefore to create role based education to be linked with personal, social and connectivist learning and developing. We have proposed a new education model in which every student can be supported in his/her development through:

- *Capacity Building* with knowledge and skills through curricula and *traditional learning* processes (Self development).
- *Capability Building* with knowledge applications, and changes in social behaviour and attitudes through work-centric *Constructivist Learning* (Social Development and Change), and
- *Co-creation Building* through group, pariwar, community working together- *Connectivist Learning* (Social Wealth Creation)

New Education is based on work centric methodology of learning **for** development and learning **from** development (*Samavaya* or bootstrapping), introduces group cooperative and mass-collaborative learning and creating (production of socially useful work and services). This makes extension education and work a curricular part and A3 scenario makes possible the co-operative way of giving work output such as Wikipedia, Wikimapia, etc. A3 Connected Learning Society can create through its creativity and generosity a large store of open resources- the Common Wealth- the social commons for the use and benefit of all. New Education proposes to change the current education system **from** teacher and content centric learning-developing **to** process-result centric learning-developing of the learner and his/her learning.

Development Centric Global -Local Learning Approach

University education in the State is organised through a State Level Commission, the *Maharashtra State Commission for Higher Education and Development* (MAHED), supported by a *Apex Advisory cum Supervisory Council* (AASC) under the Chairmanship of the Chancellor and Governor of Maharashtra, to give policy guidelines and overview, programs and resources for development of the people of Maharashtra; and *Academic and Development Council* (ADC), essentially consisting of leaders in academia and development sector to guide and suggest ways of best practices for education and development in the State.

MAHED establishes under itself the Five Divisions, which not only create the Innovation Eco-System for ALL students all over Maharashtra, but also e-Platform with rich Open Knowledge and latest technologies for learning and developing in the global and local situations. The e-Platform is a *Trans-Platform* and has high empowering and transformative value that can be added to everyone's learning and developing.

The five divisions of MAHED:

1. *MS-EDUNETS* offers digital and network services, knowledge and technology resources, facilitations and related support services
2. *Quality and Excellence Council* (QE Council) offers quality assurance, equivalence and affiliation services and helps in performance excellence raising efforts of learners, colleges and university campuses.
3. *Vocational Studies Division* (VS Division) offers large number of skill development courses and learning services through network of Vocational Education and Training services, industry placements, promotion to innovation and entrepreneurship support services in collaboration with industry and professionals
4. *Under Graduate Evaluation Division* (UGE Division) offers through Boards of Examination with on-line and on-demand evaluation services in formative and summative examinations to students from colleges and university campuses as well as to Open Learn Students
5. *Open Resource Empowerment* (ORE) Services Division offers social and group empowerment services through learning, development, value/wealth creation and social change and transformation.

MAHED essentially works by offering all the support services to all learners and education providers of the nature of administration, quality assurance, affiliation, evaluation and OER based empowering services to all learners and institutions. This is in principle a out-sourcing as well as

in-sourcing by bringing in best quality professional services. With this umbrella of support services even a small and weak college can identify its role, and becomes autonomous in providing learning and developing services to learners. Finally a decision of using the MAHED services is of the autonomy of institutions. MAHED works with advice and support of AASC and ADC, in which the State, industry, academia and developmental experts/leaders and society participates, and gives services with corporate culture. This will surely work for empowering colleges and universities in maintaining autonomy and empowering them in the networked globalised world to be more competitive and effective in their survival and growth.

Implementation of New Education through Global-Local Approach

Role based course structure for learning and developing is based on capacity, capability and co-creativity development of a student and his/her groups; and is evaluated on the basis of **Knowledge** and **Skills** acquired (**Capacity**), Knowledge **Applications** by solving real life, work, lab-field problems identified by students from situational/contextual/localised/ real /virtual problems that will contribute to the socio-technological and economic solutions with value, and **change in personal and group attitude and social behaviour** (**Capability**). Co-creativity is measured in terms of **personal / group wealth** and **social wealth** created. The evaluation tools are usual question papers (traditional content based exams) for capacity, evaluation metrics for capability, and personal and group reflections and 360 degree evaluation for change in individual and group framework. Only capacity based exams can be standardised and taken by the traditional ways of examinations. Others are to be left to the teachers, tutors, mentors, guides and the institution / university.

Researchers are well acquainted with capability type of evaluations. A big program of ICT literacy for e-Learning and Developing skills for various teaching and evaluation roles is therefore very essential.

In the traditional learning and evaluation there is no opportunity for creativity and innovation for learners. S/he has to follow teachers with prescribed content and process of learning. In New Education based on solving real life and work problems through assignments and projects, students have a lot more opportunity of learning from open resources, trying to solve issues and problems student has identified and are of interest to some of his people, and is therefore highly motivated and involved in learning and solving the problems and contribute his/her '*own solutions*'. Thus creativity, innovation and enterprise is displayed in the New Education and is quite a learning revolution.

New Education for Quality Education with Autonomy for Personal and Social Development

New Education starts with *samavaya;* a learning for development and learning from development through working and making the work wholesome and socially useful and productive. In the omnipresent knowledge world, globalised and A3 Connected, a learner needs higher capacity build for developing capability to the higher maturation level to produce work created and developed in innovative ways or value-wealth creation both of monetary as well as non-monetary nature of high socio-cultural value. The learning and developmental paths followed by an individual, group and institution in the globalised world; and his/her decisions at various interactions with unknown and new persons is to be guided by personal value and attitudes and cultural framework. The New Education in the open and global world has to be of high value and culture based practices. It is therefore essential to make New Education highly value and self-governance and self-reliant. It is therefore highly necessary to make this A3 Connected Society education self-reliant with well developed personal and group framework to live and work with honour, integrity and dignity.

This ethical value and autonomy orientation in the New Education in the global connectedness is the basis of new functions of education which should rely on basic values and social organisational principles of modernity enshrined in the Indian Constitution. The post-industrial era brings in post-modernity with new concepts of liberalisation and has to be supported by the State Government and modern social and civil institutions in education and social development. The New Education requires:

- Learner autonomy and freedom to choose courses and roles of his choices, capacities, capabilities to develop his/her innate talents and intelligences. S/he should have the rights as well as perform duties, responsibilities and accountability to 'earn' education and development.
- Teacher as a learner and co-worker, and for playing various roles of teacher, researcher, guide and developer for which s/he is qualified, experienced and employed should have similar autonomy as well as duties, responsibilities and accountability. As his/her roles, teacher should contribute to the OER, observe high ethical standards and practices, and should maintain and display e-Portfolio for his/ her developmental performance excellence.
- Autonomy to University and Affiliated Colleges is to move to the constructivist work centric learning and developing students in their self, social and ethical development, help learning and developing group to identify and follow learning and development paths and to identify their place and role in the world of life and work, and promote life-long learning and developing. Each College and University Campus should follow a path of self development to rise in their performance excellence and achieve higher and higher position in the world of education, knowledge and development.
- Each college and university campus will create Study Canter to guide and help open learning students in their studies and development by providing essential quality support services by using central support services and facilitations.
- Every educational institution should have financial autonomy and should be able to charge operational fees as are decided by the MAHED and the State Government for all private and public institutions. The public institutions should obtain their development funds from Government grants and Project funding and from the personal and social wealth contributed by the College or University. Every student belonging to the disadvantaged and weaker

sections of the society should get subsidy in fees, loans during learning period and opportunities in learn-develop-earn to support his/her education.

Linking Education with Wealth Creation and Livelihood: Issues of Equality and Justice

I-Eco-System with Trans-Platform (e-Platform) created by MAHED and all its resources and support services creates a '*level playing field'* for every learner. The issues of justice are to be addressed by the State Government and MAHED to give justice to disadvantaged and backward students and regions by taking specific measures. Free and accountable access to internet, access to e-Platform and quality support services to such students and institutions are some measures.

For linking education with wealth creation, employment and livelihood opportunities, the Multipurpose Skill Training Centers and their application centers could be created by VS Division in all district and block level places. Students should offer technical and vocational course, do experiential learning by doing industrial applications, work and give services that are socially useful and help in creating wealth/value addition and creation. Such works are to be obtained from local or urban and national / international industry, markets by using A3 Connections and doing virtual works. Often these jobs will be in tiny industries but they can be performed with knowledge and technology use that raises the quality to the work to the highest levels. Global job opportunities could be obtained to students from such Centers. Such work done and wealth created should have learning credits and be counted in course credits for some certificate, diploma or degrees.

Introducing learn-develop-earn courses for students as applied courses related to some academic subject or in other areas of student's need and liking, creates employment (self or social), and should be a learning process (developmental learning) to be evaluated with some tools and to be made a part of learning and developing programs. Students both independently or in a group should be promoted to establish small enterprises of service and production nature and should be helped in the venture with micro-credit funding.

Sub-Division of Big Universities for Raising Quality and Standards of Higher Education

The division of large university has been approached and solutions proposed by using globalisation and ICT by creating Innovation Eco-System of support services, high quality Open Education Resources and transformative and empowering technologies on e-Platform. The solution lies in A3 Connected L3 Society and the work-centric and innovation based New Education in all the affiliating autonomous colleges and university campuses.

All the Affiliating Universities should follow the path of creating district campuses and widen their roles and quality of education by establishing university campuses so that quality education could be offered to the learners from their associated jurisdiction,

Strong and quality **Open Learn Program** in which every student from formal or open stream depending on his/her choice and needs, should take some courses from Open Learn stream

offered by the University Campuses and Colleges under the supervision of MAHED. It will be essential to integrate the open education facilities in Maharashtra of YCM Open University and Distance Education Institutions of Dual Mode Universities on the common basis with university-wise focus and identity of their services for socio-economic development of Maharashtra.

We recommend

1. Creation of District-wise University Campuses and making all affiliating colleges autonomous with the quest for raising their autonomy and self-governance for achieving higher performance excellence.
2. Creation of A3 Connectedness with I-Eco-System with e-Platform for New Education System will require fewer resources for creation and operations for any new University or its autonomous campus. The autonomous and networked nature and e-Platform enables every educational institution to focus on its core functions of academic and research work, and learner and social development.
3. It is proposed that 10 Affiliating Universities with the Department of H&T Education be sub-divided into 35 district campuses, including the existing ten public universities. Each District University Campus should be managed by the autonomous system of decentralized management with empowerment for academic and managerial autonomy with accountability. All the universities and colleges are to be A3 connected by broadband connectivity.
4. Every University Campus, existing and new, should have about 500-1000 highly qualified and active research teachers in their areas of studies and the total number of students should be about 5000-10000 on the campus. They should carry out UG, PG studies and research and development.
5. Instead of establishing a new University for special purpose and special region, we may start with the proposed well established autonomous university campus at the district level by entrusting the special purposes and resources to the University Campus to fulfil the local or universal special needs expected to be fulfilled by the new University.

Financing HE Expansion and Development of University Campuses at District Places in Maharashtra

It is estimated that nearly Rs 4000 Cr (Rs 150 Cr per new university campus) will be required for the development of 25 new university campuses in districts where Public University Campuses are not now existing, Some funds will also be required to expand the facilities, resources and educational offerings including UG studies of quality. The period of expansion should be between 5-10 years and may start from NOW with the three big city universities from Mumbai, Pune and Nagpur.

MAHED Funding:

Funding for creating MAHED and its I-Eco-System, e-Platform and its support resources and services through five divisions should be funded by the State Government of Maharashtra through the Department of Higher and Technical Education. The Commission can be funded through:

- Additional Funds initially and later on through a percentage cut on the grants given to colleges and universities, since the services provided by MAHED will be reducing the administrative and managerial costs of the Colleges and universities.

- The yearly dividend obtained by the Department of H&T Education from MKCL share holding of Government can be passed on to the MAHED.

Various ways of funding have been suggested by the Main Committee and the Com 2 in their Reports.

Creating Internal and Social Resources:

1. MAHED can charge its support services to students and institutions and create incomes for development of Higher Education. All the educational institutions can follow corporate management culture and be accountable for their use of resources and in performance (MKCL created by the Government and Universities is a success story of a large partnership organisation of small enterprises)
2. Co-created social wealth can be converted into development funds for institutions.
3. Public-Private and Public-Private-Community partnerships could be resource generating – various ways could be invented (Innovations is the goal of education) to create internal resources.
4. University Campuses and Professional College can create incubation and facilitation centres (Vocational Skill Education Centers) with PPP, which may get some revenue for MAHED and its VS Division. University and institutions can make the centers attractive to the society and earn some revenue.
5. Invite Industry Participation in creating 21st century university campuses with win-win approaches, private getting social development credits and costs with some legitimate financial benefits.
6. By promoting PPP (Public-Private Partnerships) and through private contributions from Corporate Social Responsibility funds or Social Capital with social development as their profits by Industry Trusts / Foundations, we may establish educational institutions to support education and prepare job ready personnel. We may invite industry trusts such as of Tata, Wipro, Bill Gates &Warren Buffet, etc and request them to establish a new University Campus with University Township.

Some Policy Recommendations

1. Every public university, affiliated college should be self-supporting in its operational costs.
2. Unit operational cost based fees be charged.
3. Individual Tuition Fee Subsidy should be paid directly in the student's bank account along with related accountability.
4. Educational Soft loans for paying tuition fees and living expenses.
5. A Learn-Develop-Earn Program with learning credits is to be developed in every university and college. Earning one's own fees should be the aim.
6. Central-Local structure of I-EcoSystem and e-Platform and MAHED support services should be able to reduce unit-cost of education quite substantially.

Towards Creating Futures

New Education tries to develop educational system that will offer OER based supporting services with tutor – mentor guidance, offer open and free space for every student for his/her creativity and innovation, and enable learners to earn education by solving socio-economic and cultural problems by identifying them from their own situations in which a student is located. A student has all the global knowledge and expert support available from open resources and can get helped from the interactivities on the e-Platform. Solutions obtained by students are owned by him/his group and contribute to the personal, group and social wealth. This linkage of education with creativity and innovation can prove to be highly motivational and involves students in the studies and development of the locality and people. This way of educating and developing obtained through Life-Long Learning paves the way for self and social transformation. Students can shape their own futures and future of society.

New Education is participatory and co-operative, and leads to the socio-economic development of individuals, groups and communities. It creates an approach to develop radically reconstructed society. Education for creating futures of the New Society is the goal of humanity in its post-industrial phase of development. Effective and efficient implementation of the New Education is a great challenge to all the learners, developers and change makers.

New Education should be nurtured and strongly supported by the State, the industry and society in creating a model of social developmental education for the progress and prosperity of Maharashtra.

RECOMMENDATIONS

Introduction

The three Committees were appointed by the Government of Maharashtra (Ref. vide sankirna-2010/(160/10)/vishi-4(part 1, 2 and 3) of August 23, 2010) to consider the purpose, policies, programs and structures of existing University system of Higher Education in Maharashtra, and suggest appropriate reconstruction of the existing system of public universities with large enrolment of students and affiliated colleges. The Main Committee 1 is to be integrative one for evolving approaches and policies for appropriate system of Higher Education in Maharashtra. The Committee 2 is to consider appropriate regulatory and governance structure for this educational reorganisation; and the Committee 3 is entrusted with the task of proposing sub-division of universities into smaller units or universities as is appropriate in the age of globalisation of 21st century society. The three Reports of the three Committees will no doubt be complementary to each other, and are expected to offer reorganisation and reconstruction of the Higher Education in Maharashtra for the New Age post-industrial society that is emerging in this century.

Terms of Reference and Sub-Division of Universities in Maharashtra

The Committee 3 considered the causes and consequences of the globalisation, as well as difficulties and opportunities offered by it for Higher Education. It also considered the educational thought, philosophy and culture of Maharashtra and India in learning and social development, and recommended many new ideas, approaches and policies, which are given in details in this Report. Of great significance is the use of the emerging A3 connected society and social networking along with opportunities for self-organization, creativity and global employment for the networked people; the access to global resources for learning and development already being used by urban young generation. This scenario of new age society is changing education and making it highly dependent on attitude to change and practices of the people acquired in the networked society.

In this context, Comm - 3 considered the observations and the TOR for Sub-division of Universities in Maharashtra and reorganised its Terms of Reference by considering post-industrial globalization as a means to:

- Raise quality and excellence in higher education
- Link education with employment and wealth creation
- Ensure equality and justice for all students / learners

The number of university level institutions in Maharashtra has now increased to 42 out of which 22 are public universities and 20 are deemed universities. Out of total 3258 colleges, 2182 are of arts, science and commerce and the rest are professional and engineering colleges in addition to 178 polytechnics, with total enrolment of 32.83 lakh students (21 lakh in general colleges). The three big universities of Mumbai, Pune and Nagpur in the state account for 61% colleges and 44 % student enrolment compared to the percentage in the State. One university per 150 colleges, a norm proposed by the National Knowledge Commission, will require to establish new 26 universities by 2015, more than one per district. Further raising GER from existing 18 to 25-30 and converting higher education as an instrument for the reconstruction of the New FUTURE Society for its emerging knowledge economy and society will require many more universities. So creating more universities is a 19-20th century way of expansion (*more of the same*) and not suitable NOW.

Recent reports of TRAI (Telephone Regulatory Authority of India) show that 875 million are already connected by telephony and 827 million carry mobiles with them. Nearly one-third of these connections are in rural areas covering nearly 50% population. The number of mobile connected people in Maharashtra is fast rising. A connected society with mobile connectivity is fast emerging NOW with 1G (G is technology generation for internet connectivity) and 2G broadband connectivity. By considering the rate and nature of growth of ICT (Information Communication Technologies), it is safe to predict that by 2020 almost all will be connected with 3G and 4G Internet technologies. The mobile internet communication will dominate transfer of information and **A3 Connected Society** (A3 -Anyone, Anywhere, Anytime) will be well established. However, these emerging ICT technologies will take more than couple of decades to 'mature' and 'be stable' with frequent changes and subversions, and become a part of people's socio-economic and cultural life. The current society is in a transitional stage of going from industrial to the post-industrial society of post-modernity.

The present challenges in Higher Education are of concentration of university education in major cities of Maharashtra, widening digital urban-rural divide, and along with it, the divides of disparities in regional development, prosperity, progress and modernity. **Education** when linked with **social development** gives a basic tool and technique to ALL for people's development, which can be used effectively to create bright FUTURE of Maharashtra, particularly by using ICT and other technologies.

A **New Age of Post Industrial Society** is emerging. The old systems that were appropriate for 19-20th century models of education and development cannot be useful and relevant **NOW** when such revolutionary changes are taking place. What is **now** essential is to create a **Radically Reconstructed Education System** that will be useful to **create FUTURES** for the people of Maharashtra in the A3 (Anyone, Anywhere, Anytime) scenario of the Connected Society by founding the changes on equality and social justice.

We have therefore proposed a new way of addressing the problem of number of students and colleges, and the Sub-Division of Universities appropriate for the Post Industrial Society of the FUTURE.

It is therefore recommended that:

- To link education and social development, a program of *radical reconstruction of higher education* demanding extensive use of ICT (Information Communication Technology) infrastructure as proposed in the three Committee Reports be undertaken and supported by the State of Maharashtra.
- The State should play its role to protect neo-liberalisation of learners and their learning and developing in the post-industrial formation of the society. This is for ensuring autonomy in learning and development in line with Indian Constitutional obligations for all.
- The Developmental Education Infrastructure for the emergence of A3 Connect Society be promoted on priority with its use in:
  a. Creating Open Education Resource of global standards
  b. Creating empowering common support services for ALL learners
  c. Using these services and technologies on mass scale for promoting self and social development of our people in Maharashtra
- Enable and empower the students/learners and their educational institutions to become autonomous in working and developing by using self e-governance and social dependence for creating social development and change for creating the FUTURE quality education linked with development- self and social, economic and cultural - as demanded by the Indian Constitution.

Present Educational Model and its Appropriateness for the L3 (Life-long Learning) Society

Existing model of higher education adopted in India during the British Rule is typically British Education Model characterised by linearity, conformity and groupings or class creation which has dominated the current Education System. It is a Class Education model. It has been extended in areas of applications to industry, health, agriculture etc, and for various levels of post secondary education for Under Graduate, Post Graduate and Research Degrees. It is based on content learning with mastery through curricular content teaching and is highly teacher and content centric. It is based on personal excellence in logical / mathematical and communication intelligences, and neglects other forms of multiple human intelligences that are essential in life and work of any society. This has resulted in substantial failures in percentages of passing either in exams or in life. The model is suitable for capitalist developmental model of society, offers to an individual very high motivation of monetary benefits, status in society and position in power structures. The developmental model is highly competitive and not cooperative. This is obviously not suitable for mass education and certainly not in the L3 Society (L3 - Life-Long Learning) for creating Knowledge Economy based on equality and justice.

This is contradictory to the assurance given in the Indian Constitution for creating society based on values of equality and justice (values of liberty, equality, fraternity and justice) and organised with participatory democracy based on secularism and socialism (autonomous self-governed and self-reliant society- the *Swaraj*). An alternative to the Class Education was proposed in Nai Talim by Mahatma Gandhi, a great educationist recognised by the world educationists. However it was tried in India after independence and failed, because of inherent contradictions in centralised and

decentralised nature of design principles reflected in the two models of the education, the British and Gandhian, and in developmental policies adopted, particularly the values and purposes associated with the policies of wealth creation and distribution.

We have proposed a work-centric learning and social development model based on the Five Lessons of J P Naik (another globally recognised educationist in the list of 100 great educationist of humanity, besides Gurudeo Rabindranath Tagore) for the *role-based education* to create futures for the individual, groups, communities and society. This symbiotic integration of education with social development, tried and failed in the fifties in free India, was revived in the Education Commission Report (1966) entitles as Education and Nation Development, is now proposed for the L3 Society in a A3 Connected Scenario. This essentially creates a society with plenty and promotes decentralised and autonomous ways of learning and social development.

The **New Education** for the A3 Connected Society is integrating the education / learning and development and promoting L3 with creation of wealth. It is based on three approaches of Mahatma Gandhi and J P Naik:

- Mahatma Gandhi's *work centric learning* (Learning + Work + Technology ←→ Wholesome Work (SUPW))
- Mahatma Gandhi's *life centric education* (Education → Self and Social Development → Value and Wealth Creation → Personal and Social Transformation)
- J P Naik's Five Lessons for *Education for 'Creating Futures'* for individuals, groups and communities. (Role based working for creating futures by doing unique personal and group roles in real life and by becoming '**change maker'** by following learning and development paths with specific goals and mile stones)

The applications of these approaches have resulted in *Future-Now Model of Education*. The Role Based Learning is obtained through constructivist learning and development approaches being adopted now from primary education; and uses *Samavaya* (equal expenditure) of learning **for** development and learning **from** development. Learning and working is through activities resulting into work (Socially Useful and Productive Work). The work is done through the use of appropriate knowledge and latest technologies by making it wholesome, which requires a path of '*routine, rest, progress and pleasure'*. The aim of working and learning and giving wholesome work output is to create wealth and social change.

The New Education promotes mass participation in working and creating wealth, and in group development and transformation, and is therefore suitable for A3 connected society with life-centric social learning (cooperative learning) and working (Wiki processes and work output).

It is proposed that:

i. New Education with Constructivist Learning methodology be promoted with work-centric learning and developing in the A3 connected society.

ii. A system of **New Education** with ***Samavaya*** (learning for development and learning from development) be promoted with a goal of creating 'Social Commons' open for all through social learning, social wealth creating and using the wealth for social change appropriate for the equal and just society.

New Education based on Creativity and Innovation in a A3 Connected Society

The New Education needs to put all students, teachers, colleges and university departments on the e-Platform with LMS (Learning Management System) and digital frameworks with other support services made available on the platform. The teachers may engage students in a face-to-face mode in a classroom or in a distributed classroom. Students are provided with all the learning material, lectures, presentations and essential notes by the teachers and are also made available on the homepage of the course on the website, and all the leaning material is available in the OER for the course. The class is more of a discussion and study by the students either individually or in a small learning group; and teachers and tutors helping them in the small or large groups to know the content - knowledge and skills - and its application to solve problems faced in the assignments or in doing projects.

The study has two aims and achievements, answering questions based on the content, the usual capacity building part (learning knowledge and cognitive and tool based skills) and applying the capacity in solving life or society or field / lab related problems and issues either individually or in a group, depending on the nature of problems. Tutors correct the answers. Students take formative exams and obtain a score. His performance is recorded in his e-portfolio along with comments of the tutor / teacher. His assignment work also finds a place in the personal portfolio. This way student completes his course study and takes final summative exams. His performance is in a course content mastery and successful application of it in the issues identified by a student in the assignments (capability building). All is recorded in the portfolio. Mentors assigned to a student in working at the college / department / field / workshop / community help students in doing the life or lab / technology related situational and contextual work.

It is thus teaching and learning work done individually or in a group and supervised by the tutors and / or mentors and can be carried out in a face-to-face situation or in virtual on-line situation.

Students are also required to contribute to wiki work on a website on some specific social issues related to their interests; and they do it individually and in a group and submit the group work report through mentors / guide / teachers. This co-creativity for social wealth / service could be recognised through the credit points for co-operative learning and developing, and contributing to social wealth. Project and wiki works could be on term / annual basis and is counted in the course end / term or yearend work assessment by teacher /department /college / study centre evaluation.

Students and teachers should have the basic ICT skills in network based learning, teaching and evaluating. (Learning and Development Literacy in connected communities).

Initially we use **mixed method approach** to education by combining:

- **Traditional Way of** Education in curriculum based learning and developing (Capacity building)**.**
- **New Education:** New Education based on activities, assignment work and projects with constructivist learning (e-Platform based) for **Capability** development.

- **Co-creation Building** in which **Learning is linked with social development** through group and Wiki working.

Constructivist learning based on activities can be used in all the three methodologies (cognitivistic, behavioural and constructivist) with a lot of freedom to learners to choose local-global issues and solve them. This can be adopted by each university and taken to a level of creative and innovative learning through assignment and project work. Student's creativity and innovation is promoted in these activities when students in individual and group work try to solve the local problems of development by using global knowledge and latest technologies and contribute useful value / wealth through the wholesome work they carry out.

Essential paradigm shift is in freeing students from fixed content learnt by following a fixed process only for knowing and following the teacher / master / expert / guide. It is essential to learn from the best masters and guides, but identifying one's own creativity and talent by inventing one's own way by creating knowledge base while solving issues in assignments and projects. This will enable students to innovate and create through personal, group and community working. This is the appropriate way of creativity / innovation based learning. The work output of the assignment and projects contributes to the personal, group and social wealth. This creativity and innovations is value and wealth creation, and could be used for finding livelihood opportunities for students in life and work. This approach is already used in research processes; and it is now proposed to be used in all education with the omnipresence of knowledge in A3 connected society.

Such type of social work for creating social wealth is already being done in extension work through NSS, adult and continuing education etc, of the universities and colleges. NSS alone adds about Rs 20 crore worth of social wealth annually, without any credit in the curricular work. The approach here is to make the extension work curricular with credit points, the goal of Higher Education Policy in UGC Policy Framework (1976).

Our recommendations are:

1. **Promote New Education** in which learning and development is measured in terms of
   d. *Capacity Building* through acquisition of knowledge and skills both cognitive and tool/technology based.
   e. *Capability building* through working and learning from application of knowledge, social behaviour and learning, and change in personal attitudes and practices.
   f. *Co-creativity building* through small and big group cooperative working and learning and earning, wiki processes and wiki work participation in mass-collaboration and the personal, group and social wealth creation and contribution.
2. **Create Open Resources** of global and local nature for the situational and contextual learning and development relevant to the real life, work and futures' creation.
3. Create a '***ICT Literacy Centres***' in every college and university campuses to educate all teachers and learners in e-Learning and Developing Literacy Skills that are to be used for their roles in the working life in the A3 Connected L3 Society.
4. **Promote social organisation and empowerment** through learning and developing groups in creating personal / group wealth and in learning and developing communities for social wealth / commons creation for social prosperity and progress.

Global / Central-Local Level Structures for Quality Education for ALL in Maharashtra

Here Global / Central level refers to the Maharashtra level linked with National and International institutions for pooling resources for raising quality of Higher Education in Maharashtra. Local Level refers to the University and its Campuses at district level and colleges located at a locality in a district / block.

Central Structure

It consists of *Maharashtra State Commission for Higher Education & Development* (MAHED / The Commission) and working for **Policy Making,** Resources **Creation** and their **Channelization** and offering **All Support Services** to learning and developing for all techno-educational activities in teaching, learning and developing processes. The Commission is empowered by the Maharashtra Universities Act 2011 and will have THREE main bodies:

1. Apex Advisory cum Supervisory Council (AASC)
2. Board of Governors of the MAHED
3. Academic and Development Council (ADC)
4. The MAHED has following Five Divisions for offering services:
    a. Higher Education and Development Networking and Services (MS-EDUNET)
    b. Division on Under Graduate Evaluation (UGE Division)
    c. Quality and Excellence Assurance, and Affiliation Council (QE Council)
    d. Open Resources and Empowerment Services (ORE Services)
    e. Division on Vocational Studies and Distributed Centers (VS Division)

The Divisions essentially offer Digital framework, e-Platform and all technological and administrative services (MS-EDUNET) to all concerned and networked, evaluation and undergraduate exam services (UGE Division) both formative and summative, and offers on-line and on-demand examinations by forming Evaluation Boards of autonomous nature. QE Services will link itself with all the IQACs in colleges and university departments / campuses and offer all affiliation services to universities. VS Division will link education with vocational and professional courses and create network of facilitation centres for skill education, linkages with industry and society and livelihood and employment creation. ORE Services offer Open Learn Program in cooperation with YCM Open University, DEIs of dual mode universities and support of formal universities and colleges for creating OER as well as Open Learn Channel to all students, formal and open, of equal quality, content and performance levels.

The Central Structure of MAHED built for the State offers quality education services with equivalence in traditional and open learning and can accommodate large numbers at lower levels of Associate UG (first two years) and UG levels, and offers networked services to all students, teachers, providers and institutions.

Local Structure

All public universities along with their colleges and students are to be connected to MS-EDUNET network system. Following types of institutions will be established at the regional / local level:

Affiliating University is reorganised and reconstructed with following Institutions:

1. University's Main Campus for organisation, administration and management of Campuses and colleges under its jurisdiction.
2. Autonomous District University Campuses for Education, Research and Social Development
3. Autonomous Colleges (NAAC B+ and above) and Empowered Autonomous Colleges
4. Affiliated Colleges
5. Associate Professional Colleges with Vocation Studies and Links with Livelihood and Industry
6. Empowered Autonomous Cluster Institutions and Special Interest Based Consortia of Colleges

Each Affiliating University creates A3 Connected scenario for its colleges and students; and organises Higher Education studies at the PG and Research & Development level, Under-graduate studies at degree level and Professional and Vocational Studies at the first 2 years level with skill education at the Diploma /Certificate levels. This is similar to Associate Degree program in Community Colleges. University should help in increasing GER and link education with locality development.

The autonomous nature of the institutions is to be used to fulfil the wide variety of needs of learning and development of students as well as of people / community around.

Already nearly 23 lakh students in 7 Public Universities are connected by MKCL through Internet services by e-Suvidha for learners, and Digital University and Digital College frameworks cover 73% of the 2350 colleges of 6 Universities, besides 60% Study Centers of YCMOU. This could be a starting point for building A3 Connected Networks and e-Educational Infrastructure in Maharashtra.

While creating the Central-Local networks, we have used the principle of outsourcing commonly used for using highly profession services and freeing Colleges, and University Campuses from administration and routine managerial work, so that faculty concentrates on their core functions of education, research and development wherein they have their domain expertise. MAHED is expected to create the central backbone and structure to create Educational Communication Infrastructure required for giving freedom and autonomy to every student anywhere, anytime and for creating e-Platform for level playing field for all learners in Maharashtra.

Recommendations

On the basis of the Maharashtra Universities Act 2011, following enabling structures be established:

1. *Enabling Central Structure* as given above to offer global knowledge and up-to-date post-modern technologies and support services for personal and social / institutional learning and development in the educational model being created for the transitional measures as well as new model of education by creating A3 connected Educational Infrastructure
2. *Create* I-Eco-System environment and e-Platform for all to learn, create and innovate, and search for L & D Paths with the goal to find place for one-self and their group a place in society and world of work
3. *Reconstructed University structure* with Autonomous District University Campuses and autonomous colleges as well as affiliated colleges with their path of development to autonomy and their new roles in A3 Connected learning communities of students / learners, teachers, educational institutions and other stakeholders to achieve goals of learning and developing.
4. *Promote wider opportunities for learning and developing* by offering variety of higher education courses at the base of higher education pyramid by maintaining the same quality norms for face-to-face and in Open Learning courses with learning freedom for course selections; and offering support services of the same quality and relevance to students for both the traditional and open stream students.
5. *Choices as per the talents and needs* will create students, who go out to world of work for developmental working and learning for being effective in society, and only some will take advance courses to go for academic and professional courses requiring specific logical, communication and profession specific intelligences.

University Structure for linking Education with Social Development

1. Affiliating University should be reconstructed with academic and development centric bodies and officers. We particularly recommend the university authorities as:
   a. SOUL - Society University Partnership Council, Board of Management, Academic and Development Council
   b. Planning Board for Techno-Social Transformation, Schools of Developmental Studies, Board of University Education and Development, Board of Studies, Evaluation Board, and the Board for Open Resources and Social Empowerment
   c. Major changes are in introducing development in various bodies to make social development and self-governance as the key functions of value creation in connected society; Domain based faculties are replaced by the Schools of Development Studies in various areas of development with Deans of Development Studies, Development is inducted in other bodies, Departmental structure is unchanged but grouped under Schools.
   d. Open Learn Stream is introduced as a part of every university and college through its Study Center.
   e. Each autonomous college and even the affiliated college should have similar self-governance structure but with small size bodies with teachers / heads in change.

f. Since Autonomous structures of University Campuses and Colleges are being governed by the Institution with teaching – learning and formative evaluation functions, and supported by the use of central support services of MAHED, the University and its Campuses and Colleges are not left with much of routine administrative functions. Further digital university and college framework does automatically many tasks and the college saves on the administrative costs. Conduct of evaluation and affiliation could also outsourced for their informational and routine tasks, and the Universities and Colleges, therefore, become quite autonomous and focussed on their core functions; the teaching – learning –development functions.

2. Affiliating colleges follow self-development path to autonomy and performance excellence by moving from their initial status of:

   Affiliated College → Autonomous College (With NAAC B+ grade and higher) → Empowered Autonomous College

   Within a fixed time frame, all the existing colleges could be autonomous. They should maintain their autonomy by maintaining high quality, standards and relevance and should move on to the path of higher and higher performance excellence. In this developmental path, MAHED and QE Council can help each college in their quest towards excellence and higher affiliation stages.

3. All the Colleges and Universities and its Autonomous Campuses should follow RTI Act and show transparency in all the relevant policy decisions and their implementation information should be displayed on their institutional website.

Autonomy of Learners, University and Affiliated College

Learner, Learning and Developing:

1. Learner will have freedom to choose the subjects of his/her liking and will have the right to achieve his/her learning and development goals. S/he has to do all the duties, observe responsibility and accountability in studying, learning and developing as well as in social collegial activities.
2. *Ensuring student / learner autonomy and accountability in the knowledge society is primary for the creativity and innovation in the creation of FUTURES.*

One of the major outcomes in New Education is not the more of the same, but more with higher quality and higher levels of achievement and performance.

Teacher, Teaching and their Different Provider Roles

Teacher is firstly a learner: life-long-learner and developer. S/he has to play multiple roles of lecturer, expert, tutor, mentor, guide, co-worker and co-creator, manager, organiser, academic and development leader, etc. Teacher has to:

1. **Play multiple roles**: Researcher, Developer, Teacher (Tutor and Mentor), Guide etc to support student's Learning and Developing - individually and socially

2. **Guide and shape the CHANGES** in students and their groups in their working and developing by giving scaffolds of Teacher Services of academic and technological nature.
3. **Follow Constructivist Learning approach** through Work/Activity Based learning and development with Assignments and Project based studies.
4. **Promote Wiki processes, co-creativity and quality of Wiki resources** and help students' organization to develop and nurture innovation and creativity and their use in creating social wealth.

It is obligatory for every teacher as a part of his/her duty and service to students, in classroom as well as outside, to present all the learning material given to / intended for the students on the website / home page of the course in OER.

Teachers can be

1. Existing teachers working on permanent basis.
2. Tenured teachers with three/five year assignment with opportunity to continue in tenure.
3. Contractual appointments for fixed period –Non-tenured teachers.
4. Temporary and contractual appointments for the job and work assigned (Empanelled Teachers, panels created by the University).
5. Outsourced work to teaching providers (group of teachers or provider institution) from inside or outside the education institutions..

Teachers will be assessed on the basis of student feedback and their performance, on personal portfolio of teacher's work showing progress in teaching, learning and up-gradation of his/her knowledge, skills and performance level.

Management Bodies – Major Changes

New learning, developing and co-creativity processes and their outcomes will lead to social development. All students in higher education in Maharashtra (about 33 lakh) participating through their assignments and projects in the social development (each for 100 hrs/year), can create nearly 33 crore man-hours of resources resulting into wiki work or social wealth. This is thrice the work contributed yearly in creating Wikipedia by the existing contributors (100 million hours / year). Students not only learn but co-create through co-operative learning (production learning, service learning and experiential learning).

Since education is getting linked with social and national development, the top bodies and authorities should have more representation of experts involved in actual development and its studies.

Autonomous and affiliated colleges should be managed by a few bodies (Executive Committee, Academic Council and Social Development Council) and the bodies should have adequate participation in Academic and Social Development Council of professionals, industry and external academia of high repute to guide the college.

Recommendations:

1. All these requirements needed to link education with social development as well as A3 Networked working should be incorporated in the MU Act 2011.
2. Two new functions of social development and autonomous self-governance should be included in the Act.
3. MAHED has the responsibility to tackle the transitional and last mile problems in the transition towards the New Education for the A3 Connected Learning Communities of teachers, learners and all related stakeholders.

New Education System: Processes, Methodologies and Mechanism

Global-Local or Central–Local model gives opportunity to create **Innovation Eco-System** (I- Eco-System) for Education and Social Development with the help of A3 Connectedness and globalisation. Global knowledge and expertise available either openly or freely could be captured in the Open Education Resources (OER) with role based courses based on constructivist learning. A problem solving approach given in the assignments or identified in project work or in the contexts created in the lab or field requires knowledge that cannot be found in the fixed curriculum designed to learn specific content. Hence the process of education changes:

***FROM* Teacher and Content centric education *TO* Learner and Learning centric Education**

Focus changes **from** content learning given in curricula **to** process-result learning in solving problems and issues identified in assignments and projects. This is a new paradigm of education. It concentrates on capacity building essential to solving problems from real life and work or real issues in science and technologies or in any other field. In such problem solving one has to have a role to play and learning is based on knowing basic concepts learnt at the level and depth of knowledge and skills that enables learner to find solutions. Localised and situational issues linked with life, work and development related issues through universal need, local solutions for the benefit of the locality and people. In fact concerned people or stakeholders could be the partners in solving problems. A copy approach in such a situation is completely inappropriate. Thus education gets linked with locality and situated problems and their solutions. Education gets linked with social development and involves the stakeholders, each one having to play a unique role in solving problem and achieving development.

Role of the Central Structure: Supporting Learning and Social Development

The e-Platform and learning and development environment created on the Platform is the major function of the Central Structure and its support services, knowledge and technological services. It will offer e-platform based opportunities for interactivities between students, teachers and experts. Peer learning is identified as the best way of learning and is used by many in self-learning. Learning is natural when allowed to happen in a natural and creative way. I- Eco-System should use all these ways on the e-platform and enable students to learn independently with the help of best global resources through OER.

Educational Methodologies and Approaches

1. Methodologies of learning used in the New Education with A3 connectedness will be a mix ways of cognitivistic and behavioural learning and new work-centric constructivist learning. We will also have a blend during the transitional period of curricular learning and work centric learning as given earlier.
2. Every autonomous college and university campus should go for learning and development in which capacity is used to develop capability of a student, and group with group/social wealth creation. Affiliated college in the initial stages will use capacity development as the main aspect of learning and later on move towards capability and co-creativity development. In the process, they will identify top talents in various intelligences and promote them to be innovative and creative. This will be the role of a teacher and colleges/university departments. Objective should be to develop *reflective and creative thinking*, academic and professional development linked with futures for oneself and for society.

   All these methodologies of learning will ensure *wholesome personality development* of a student and his/her group, community and locality.
3. *Learning and Developmental Streams*: All the universities and colleges shall provide the *four streams* of courses (each carrying definite credits) and curricula:
   g. Academic Stream
   h. Technology Stream
   i. Professional and Social Stream
   j. Personality and Cultural Development Stream

Every student should have the freedom to choose courses essential to develop self, group and society and, if courses of quality are not available in the college, student has the freedom to choose courses through Open Learn Stream. Every college, autonomous or not and University Campus Departments offer their courses on e-Platform. Open University and dual mode DEI offer these facilities to all students. So they offer courses not only to non-formal learners but also to regular students in colleges and University Departments. MAHED and its QE Council has a great and important role in ensuring equivalence, quality and relevance of these courses on some norms based on performance excellence of students. There is a danger of easy low quality courses driving good and quality courses out of educational offerings. (Bad money drives good money out of market!).

Recommendations

I. Process-Result based Constructivist New Education:

a. MAHED should establish Global-Local / Central–Local model on **e-Platform with I-Eco-System,** with all the support services, communication technology use in the networked A3 scenario with access and opportunity of success for every student of Higher Education in Maharashtra.

b. The Open Education Resources (OER) with its content for role based courses be created by the Division of ORE Services in partnership with all universities and autonomous and affiliated college and Open Learn Channel be established for all. .

c. It is obligatory to all teachers and experts working in the HE System in Maharashtra to contribute their best learning materials related to their course teaching.

d. OER should have Curricula with Role Based Courses, which should be on the basis of Concept Based courses for constructivist learning.

e. Focus in New Education should change from content learning given in curricula to process-result learning in solving problems and issues identified in assignments and projects.

f. The e-Platform and I-Eco-System environment created on the Platform is the major function of the Central Structure for its support services with rich knowledge and technological resources and services to students, teachers, experts and colleges and universities.

g. I-Eco-System should promote the use of the e-platform and its Open Resources to enable students to learn independently with the help of peers and best global resources.

II. Learning Methodologies

a. In the transitional stage, we use a blend of all the methodologies with cognitivist and behavioural learning and new work-centric constructivist learning. MAHED is to lead the change towards the New Education in partnership with colleges and universities,

b. In the initial stages, affiliated colleges will use capacity development as the main methodology of learning, and will slowly shift to the New Education.

c. Every University will ensure *wholesome personality development* of a student and his/her group, community and locality as the major goal of education.

III. Learning and Developmental Steams of Courses

a. All the universities and colleges shall provide coursed in the four streams of academic, technological, professional and social, personality development and culture related courses.

b. Every student should have the freedom to choose courses essential to develop self, group and society and, if courses of quality are not available in the college, student has freedom to choose courses from any other University and through Open Learn Stream.

c. Along with freedom, student observes his/her duties, responsibilities as well accountability, and accepts conditions for reforming the system by following ethics and good practices.

IV. Equivalence of Courses in terms of their Quality and Relevance

a. MAHED and its QE Council in partnership with Universities and Autonomous Colleges should ensure quality by evolving norms for equivalence on the basis of student's performance and excellence achieved.

b. MAHED should be vigilant to avoid the danger of easy low quality courses for passing driving out good and quality courses out of educational marketing. (Bad money drives good money out of market!

V. Evaluation of Student Performance:

a. It will be on the basis of personal e-Portfolio developed by a student for giving his/her learning and development, and will be measured on the basis of credits s/he accumulates and will be evaluated on the basis of:

- Requirements prescribed by the University or Autonomous College
- Self-development - Capacity (knowledge and Skills development)
- Social development - Capability (Development in capacity applications, attitudes and social behavior)
- Co-creation of Social Wealth / Commons - Performance /results delivered, and Professional development
- Personality framework development that includes individual and his/her social values and behavior.

b. Students can choose their studies as well as vocational courses to learn-develop-earn programs of colleges and continue to learn as a life-long learner. S/he may be a full-time student or own time learner.

State Level Evaluation Boards and Formative & Summative Examinations

The paradigm shift in New Education is to focus on process-result based studies; and in terms of evaluation, focus is on both the formative and summative aspects of process and results. The e-Portfolio is therefore an important developmental tool for student's study process.

The Capacity Development in terms of knowledge and skills could be evaluated by the traditional tools of questions and answers and lab-field testing. All the teachers and experts and senior students could be involved to create evaluation resources.

Recommendations

1. MAHED creates such a division or Body, which creates the backbone and framework for all the formative and summative services, prepares and offers evaluation resources, and offers academic formative and summative services on-line and on-demand.
2. We recommend a state-wide body by MAHED and four Evaluation Boards to promote UG level evaluation services with a view to equalisation of standards amongst the universities and colleges and offer evaluation services for all courses in a customised way.
3. Equivalence of curricula of different universities /autonomous colleges and examinations will have to be established under the guidance of the MAHED and its UGE Division and QE Council in partnership with universities.
4. *Capability* and *Co-creativity* building aspects are to be examined by the teachers and institutions-Colleges, University Campuses and Consortia of Colleges.

New Mechanism for New Education

Following mechanism in education are very vital for the New Education based on Open Education Resources:

1. **E-Platform, I-Eco-System** creating right kind of learning environment and opportunities, Learning and Learner Management System with digital frameworks.
2. **A3 Networks for learning and development** and organising special interest groups /pariwar and communities for wiki working and developing.
3. **On-line and on-demand Evaluation services** for formative and summative development of a learner.
4. **Credit Banking** and space for **personal portfolio** development and *free space* for personal creativity and innovation.
5. **Course Teams** of providers, teachers, experts, tutors for developing and deploying courses.
6. **Study Centers and SC Teams** of local experts and mentors for personalisation and localisation of work of a student and his/her group.
7. **OER** for Role Based Courses for learning and development.
8. **Community and stakeholders** related **Networks:** For learning and development groups in community of interests and role of a student and his/her groups in their development.
9. **Creation of Commons and Social Wealth** for developing Equal and Just Society

Linking Education with Wealth Creation, Livelihood, Prosperity and Progress

MAHED with its Division of Vocational Studies can create a network of vocational training and create tech-voc education resources with the help of industry and social institutions where usually such a man-power is required at the workers or supervisory or higher levels of employment. The services may be required locally, regionally or internationally. The MS-EDUNET services and various mechanisms to be created by the VS Division, in partnership with professionals and their associations and industry partnerships, can create local partnerships at block / district / and the State levels and provide relevant vocational training for their employment. The professional / vocational training and production centers can be established in each colleges (mostly for soft skills) and Vocational Centers either at the Associate Professional Colleges or higher level Professional Colleges with win-win partnership with industry, and managed and run by the professional with corporate and company culture. This should not be left with academicians since they do not have such professional qualifications and experience to run such centres.

Similar is the case of working with people for field developmental work aimed at wealth creation through vocational and social work. We should have partnerships with NGOs, the State and other field development agencies to participate in the social work for social wealth creation and social development and change. Many colleges and universities have done such social work but there is no learning out of it. Linkage of all such socio-technological and economic developmental work should be made a part of *co-operative learning (production learning, social service learning, and experiential learning)* by using group reporting in which evaluation of work is done through some tools, and counted as learning credits for personal or social or professional development.

Earn and learn scheme is quite popular in many rural colleges. Students usually do physical work of lower skills and the work has to be subsidised. We should change the approach and with the help of skill development centers established at various places with the latest technologies such a MIT FabLab, pilot production centers, incubation centre etc, students should be encouraged to undertake social and economic developmental tasks by employing higher knowledge and technologies and offer the services for which they can earn money or social credits for contributing social wealth. The products and services of such work should be of highest quality and relevance possible. In fact in India, industry engages persons in nearly 87% jobs done by people (tiny industry) in services to earn a tiny amount and somehow survive on such jobs. Such a tiny industry and SMEs needs such type of training in quality raising and taking the products and services to highest national and international levels. Students with some encouragement from small, medium and even big industry can do such jobs with high knowledge and technology inputs for value addition and create small enterprises. They should be promoted by such Vocational Training and Professional Education Centres by giving financial micro-credits to students.

Recommendations

1. Establish Multipurpose Skill Training Centers in colleges and Associate Professional Colleges; and students be encouraged to learn vocational skills and apply to earn their livelihood and create social and personal wealth. Such work should have learning credits and be counted in course credits for some certificate or diploma degrees.
2. Introduce learn-develop-earn while students are taking academic courses in their applied subjects or in other areas of their need and liking. Creating employment (self or social) should be a learning process to be evaluated on the basis of some tools and be made part of learning and developing programs.
3. The Skill Training centres should run not only as enterprise and creativity centers but also as finishing school centers for production, marketing and wealth creation processes.

Many innovative ideas could be generated by students while learning; and small tiny enterprises could be created with production and service quality of national and global standards. Outcomes will be addition to the personal, group and social and financial wealth. Students can find their employment and livelihood and contribute to the prosperity and progress of the individual, group and society. MAHED and particularly AASC can play very important role in this development.

Inclusion, Equality and Justice in Higher Education in Maharashtra

I-Eco-System with mechanism of Trans-Platform (e-Platform), MS-EDUNET reaching every student, teacher, provider institution in rural as well as urban areas, and a global – local model of social developmental education, and use of Open education Resources (OER) accessible for all on the e-Platform along with quality support services offered by the five divisions of MAHED for all learners, creates the environment of '*level playing field'* for offering higher education with inclusion and equality.

Equality of access and success ensures to some extent justice to all the disadvantaged from rural or urban areas. Inequalities arising due to economic disparities, particularly poverty based have to be taken into account by ensuring subsidies to get access on the e-Platform and special compensatory packages for their social backwardness.

It should be noted that in the New Education linked with social development, it is not the *giving-taking* or *provider-consumer* process of education, but *taking* - *earning* or *prosumer* (Producer + Consumer) model of education aimed at nurturing thinking and reflecting abilities for creativity, innovation and enterprises to become successful in developmental education.

We recommend some policy decisions to ensure equality and justice:

1. Give connectivity access and its free use to the backward regions and disadvantaged learners on priority basis. (Free and accountable access to internet)
2. Access to the e-Platform should be ensured first to the backward region in the State
3. Quality support of learning services should be ensured to the students of the poor and rural sections of society.
4. Subsidy given directly or indirectly be deposited directly in the personal Bank account of the student and its accountable use is the responsibility of the learner, which s/he demonstrates with record of performance achievements

Sub-Division of Big Universities for Raising Quality and Standards of Higher Education

The problem of sub-division of universities with large enrolment of students and colleges, that will be coming in Higher Education now and in future as knowledge economy and life-long learning society emerges and becomes inclusive to cover every one (democratisation of education), has been approached and solved by using globalisation and ICT by creating Innovation Eco-System of support services and high quality Open Education Resources and transformative and empowering technologies on e-Platform having high transformative value. The solution lies in A3 Connected L3 Society and the work-centric and innovation based New Education in all the affiliating autonomous colleges and university campuses.

All the Affiliating Universities should follow the path of creating district campuses and widen their roles and quality of education by establishing university campuses so that quality education could be offered to the learners from their associated jurisdiction.

In spite of these efforts, the University Campuses will not be able to cover more than 10-15% of total UG students. Similar will be the case for PG courses and research functions. It is therefore proposed to have a strong and quality **Open Learn Program** in which every student from formal or open stream depending on his/her choice should select some courses from Open Learn stream offered by the University Campuses and Colleges under the supervision of MAHED. It will be essential to integrate the open education facilities in Maharashtra created by YCM Open University and Distance Education Institutions of Dual Mode Universities on the common basis with university-wise focus and identity of services for socio-economic development of a student and region of Maharashtra.

Establishing New and Special Purpose Universities in Maharashtra

There will always be a demand to create a new university for a region or for special purpose. The approach to New University in the connected society should now be changed. It is not the isolation of a university but its functional integration with other universities and colleges for establishing co-creativity, help society around to develop socially, economically and culturally, and use global knowledge and resources for the success of a student.

Every university should distinguish itself by its culture of quality and excellence, the socio-economic model of development it promotes, the brand and level of commitment of its faculty and students, and the achievements for which its faculty and students should excel and distinguish themselves. Achievements of innovation and creativity, their translation into socio-economic and cultural developmental of society, and the global recognition it receives in the New Age of post-modernity should decide the distinctive nature of each university and the autonomous college.

Creating a new University with special purpose, either of global or local needs, is but a small step. It could be done by promoting the related District Autonomous University Campus with special grants, resources and special functions to form a new university. The University District Campus created in each affiliating district of affiliating University, and run as an autonomous unit of the University successful with quality and excellence achievements, becomes a good potential

candidate for the new University. However, instead of following 20th Century practices, we propose that a new approach be followed for creating a new University.

We recommend

1. Creation of District-wise University Campuses and making all affiliating colleges autonomous with quest for raising their autonomy and self-governance and achieving higher performance excellence.
2. Creation of A3 Connectedness with I-Eco-System with e-Platform for New Education System will require fewer resources for creation and operations for any new University or its autonomous campus. The autonomous and networked nature and e-Platform enables every educational institution to focus on its core functions of academic and research work and learner and social development.
3. It is proposed that 10 Affiliating Universities under the Department of H&T Education be sub-divided into 35 district campuses, including the existing 10 public universities. Each District University Campus should be managed by the autonomous system of decentralized management with empowerment for academic and managerial autonomy with accountability. All the universities and colleges are to be A3 connected by broadband connectivity.
4. Every University Campus existing and new, should have about 500-1000 highly qualified and active research teachers in their areas of studies and the total number of students should be about 5000-10000 on the campus. They should carry out UG, PG studies and research and development.
5. Instead of a new University for special purpose and special region, we may start with the existing well established autonomous university campus by entrusting the special purpose and resources to the University Campus and fulfil the local or universal special needs through it in the networked scenario of Higher Education.

Immediate Subdivision of Big City Universities

It is recommended that Large Universities (Mumbai, Pune and Nagpur) will immediately have:

- Main Campus and Sub-Centers/Campuses at Suburb and District Places.
- The existing and new campuses are created as autonomous campuses and add undergraduate education programs as a part of the academic activity linked with PG and Research and Development programs.
- Main University Campus functions with all the central bodies and authorities for promotion, coordination and quality assurance of all the campuses of the University and its affiliated colleges.
- The basis of sub-division is not on numbers but the need of quality and relevance of higher education both for PG and UG courses and strongly linked with socio-economic development of the district/region. We may recommend forming Sub-Campuses at the undeveloped district places and create Campus facilities for quality education and development.
- While selecting Campus Place for a new University center, linkages with resources required for its creation and development as well as industry nearness may also be taken into account besides the availability of large campus area for its development.

- University follows a policy of creating large campuses with up to-date Research, PG and UG facilities. Main University carries all the authority; and sub-Campuses will have delegated autonomy with authorities for efficient functioning and raising quality and relevance of higher education in their learning, developing and social transformation processes.

Financing HE Expansion and Development of University Campuses at District Places

It is estimated that nearly Rs 4000 Cr (Rs 150 Cr per new university campus) will be required for the development of 25 new university campuses in districts where Public University Campuses do not now exist. The period of expansion should be between 5-10 years and may start from now with the three big city universities from Mumbai, Pune and Nagpur.

MAHED Funding

Funding to create MAHED and its I-Eco-System, e-Platform and its support services through five divisions should be provided by the State Government of Maharashtra through the Department of Higher and Technical Education funding. The Commission can be funded through:

- Additional funds initially and later on through a percentage cut on the grants given to colleges and universities since the services provided by MAHED will be reducing the administrative and managerial costs of the colleges and universities.
- The yearly dividend obtained by the Department of H&T Education from MKCL share holding of Government can be passed on to the MAHED.

Various ways have been suggested by the Main Committee as well as by the Comm 2 in their Reports.

Internal Generation of Resources

- When privatization is accepted as a policy by the State Government, it is natural to expect that both the private and public institutions in Maharashtra should have the same level playing field in terms of fees for tuition and development. Equality and justice should be ensured by providing subsidy and soft loans to disadvantaged students directly.
- Higher Education system as developed in our Reports is linking education with socio-economic development; and creates job-ready students in many hard and soft skills useful for industry and society. A student has an opportunity to work, learn and earn his/her costs by obtaining and applying knowledge and skills to socially useful and productive work. This also carries Credits for developmental learning.

Permanent supply of resources: financial, academic, technological

1. Central Bodies of MS-EDUNETS, UGE Division, VS Division, QE Council and ORE Services can create resources from their services. Corporate and professional culture of operations should be employed for efficiency and productivity. (MKCL created by the Government and Universities is a success story.)
2. Co-created social wealth can be converted into development funds for institutions.
3. Public-Private and Private-Community partnerships could be resource generating – various ways could be invented (Innovations is the goal of education)
4. University Campuses and Professional College can create incubation and facilitation centres (Vocational Skill Education Centers) with PPP, which may get some revenue for the MAHED and its VS Division. University and institutions can make the centers attractive to the society and earn some revenue.

Industry Participation in creating 21st century university campuses

We aim to have job ready personnel by promoting PPP (Public-Private Partnerships) and through private contributions from Corporate Social Responsibility funds or Social Capital with social development as their profits by Industry Trusts / Foundations in establishing educational institutions to support education. We may invite industry trusts such as of Tata, Wipro, Bill Gates and request to establish a new University Campus with University Township.

Some policy Recommendations

1. Every public university, affiliated college should be self-supporting in its operational costs.
2. Unit cost based fees be charged.
3. Individual tuition fee subsidy should be paid directly in the student's bank account.
4. Educational soft loans for paying tuition fees and living charges.
5. A Learn-Develop-Earn Program with learning credits is to be developed in every university and college.

New Age University in a New Age University Townships

All the new university campuses could be created as a part of New Townships appropriate for the 21st century technologies, industries and networking practices (Ref to the Main Committee Report). The University should work with people for social development and partner with private industries with PPP and have a win-win model instead of promoting profit maximization. The model of socio-economic development based on the approaches of social business and social production model with social benefits could be developed by offering jobs and work to the poor and disadvantaged after their training in quality skill development. A '*Maharashtra without poverty*' could be the goal for such social enterprises.

Many corporate bodies these days are creating huge funding foundations for supporting and creating a new industrial and cultural society by supporting many social and educational programs, (for example, Tata, Wipro, Bill Gate Foundations). We may invite such foundations to be a partner in development of the University Township and New Age university based on autonomy and self-governance models with PPC Partnerships. The foundations can create and contribute social capital for the development of a University Education and support social change to establish emerging Knowledge Economy and Knowledge Society.

University system has the challenge to evolve social developmental /business / production model for the new age society formation and development.

INTRODUCTION

Globalization brought about by the **Information Communication Technologies** (ICT) is changing not only domain of communication, but also economy, social working and organization of the people. ICT is creating technology based society (Techno-Society) with new processes and mechanisms that are continuously emerging, changing. These are, in turn, changing and restructuring the entire society. This revolution is being brought about by ICT. Researchers and technologists are inventing and marketing other technology applications; and people are using them in life and at work. A **New Age – Post Industrial Society** is emerging. We all are in the transitional stage. The old systems that were appropriate for 19-20th century cannot be useful and relevant **NOW** when such revolutionary changes are taking place.

What is **now** essential is to create a **Radically Reconstructed Education System** that will be useful to **create FUTURES** for the people in the A3 (Anyone, Anywhere, Anytime) scenario of the Connected Society. Government of Maharashtra, with the leadership of the Hon'able Minister for Education, has taken a very visionary step in appointing three committees. The role of these committees is to:

- Find out the nature of New Globalized Society
- Explore new ways of communication as well as education
- Suggest appropriate New Education System that will offer relevant education to the new generation of learners in Maharashtra

The approaches, measures and methodologies suggested for the New Education for the New Age should enable higher education to address the problems of number of students and colleges, their quality, relevance and applicability of the degree education to the globalised as well as localised scenario that is emerging now and by 2020-30.

The New Education System should link learning with the development of students, not only in academic way but also help them with their carrier paths for their livelihood in local as well as global society along with socio-economic development of Maharashtra.

Formation of the THREE Committees and Committee (Comm - 3) on Subdivision of Universities:

The Government of Maharashtra has appointed three committees:

1. First one is the Main Committee for overview, policies and final recommendations (Comm - 1)
2. Second one is for the regulatory framework for the Public Universities in Maharashtra (Comm - 2)
3. Third one is for the Sub-division of the Universities (Comm - 3)

The Committee on the Sub-Division of Universities is essentially formed to sub-divide big universities like Mumbai, Pune and Nagpur into smaller universities or their sub-campuses. This hopefully will make them more quality oriented and globally competitive. The committees worked together in which:

- **Comm -1**, headed by Dr. Anil Kakodkar, discussed and proposed policies, approaches and designs of the institutions (forms and functions)
- **Comm - 2**, headed by Dr. Arun Nigavekar, proposed the nature and forms of governance of the university authorities and bodies, mechanisms and approaches for the New Age University system.
- **Comm - 3**, headed by Prof. Ram Takwale, while considering sub-division of big universities, proposed reconstruction and reorganization of higher education in the form of New Education to serve the New Age requirements of the A3 (anyone, anywhere and anytime) connected society that is emerging rapidly.

  The new society will have a clear picture about its techno-socio-economic development by 2020-30.

Terms of Reference (TOR) of Comm - 3 and their Reorganisation in the New Context

Briefly the terms of reference (TOR) not only of Comm-3, but also of the other two committees were given general observations in the Introduction of the Letters of Appointments (Ref. vide sankirna-2010/(160/10)/vishi-4(part 3) of August 23, 2010 for Committee-3. Following are the observations:

- It is the responsibility of the Universities to offer quality higher education to its students and citizens.
- The Honorable Governor and JBVC members expressed their concern about falling quality and standards of higher education in Maharashtra.
- Students should be educated to make them capable to compete internationally in quality and competitiveness for research and job opportunities.
- Large number of students and affiliated colleges have created a huge workload of administrative, affiliating and evaluation functions on the University administration that has resulted in lowering the level of curricula, their relevance and modern nature; and on the whole, reduced performance quality and standards of students.
- By considering the suggestions of the National Knowledge Commission of having one university for every 150 affiliated colleges, Maharashtra immediately needs sub-division of three big universities (Mumbai, Pune and Nagpur) with 8 new universities and 18 more by 2015 for increased GER (Gross Enrolment Ratio).
- We may need many more universities when universalisation of secondary education takes place and citizens become life-long-learners in the Knowledge Economy and Knowledge Society, which are in the formative stages.

While proposing measures for making universities efficient and effective, the Comm-3 should consider the following (main TOR-given briefly):

1. Consider the measures used by other universities in the world.
2. Consider also the measures such as:
    a. Forming subject-wise universities
    b. Creating more universities by sub-dividing existing affiliating universities.
    c. Create a State Board for undergraduate examinations and entrust matters related to affiliated colleges to such a Board with appropriate University authority.
    d. Any other way of reducing the burden of universities and making efficient and effective in imparting education.
3. The recommendations should be practical, realistic and implementable.
4. Should suggest measures of good governance.
5. Consider also the new universities in view of the larger and ever increasing GER.

The globalisation and Information Communication Revolution has created global opportunities for our students for working and employment as well as opportunities for learning and raising standards through internet access to the omnipresence of knowledge now accessible to anyone connected to the networking. The usual approach of sub-dividing big universities into small ones is no longer relevant and need some other way to do the same thing but with different approach, which will enable to maintain high quality and standards of each autonomous unit of university as well as of an affiliated college. Autonomy is the key approach with networked support of all technological, administrative and knowledge based support services to all the university campuses, autonomous colleges and affiliated colleges as well as to 'open learning' students from anywhere anytime. Final goal of university education in the 21st century is to prepare students and citizens of Maharashtra to become competent and capable to work in and benefit from the emerging future knowledge economy and knowledge society.

In this context, Comm – 3 reorganised the TOR for Sub-division of Universities in Maharashtra and considered globalization as a means to:

- Raise quality and excellence in higher education
- Link education with employment and wealth creation
- Ensure equality and justice for all students / learners

All this needed radical reconstruction of higher education demanded by ICT (Information Communication Technology), which is based on emergence of the A3 (Anywhere, Anytime, Anyone), scenario to connect society with its global open resource and social networking movement. The New Connected Society has unleashed many ways of self-expression and forces of self-organization. Connected people are contributing their creativity and generosity for creating social wealth/commons. This demands a review of the PRESENT (NOW) education system to create FUTURE for students for their learning and development in the new society.

Committee - 3 Activities and Feedback

The Committee -3 on Sub-division of Universities held 5 meetings, received feedback from vice-chancellors and directors of BCUD as well as through detailed discussions with certain sections of Mumbai University (University professors, students and administrators). The committee feels that the feedback should have been still wider and from all stakeholders of university education system. The Committee had the opportunity to hear Sir John Daniel, the President and CEO of Commonwealth of Learning, Vancouver, Canada on his perspective of global higher education and his experiences.

We are thankful to the Hon’ble Minister for Higher Education and Secretary Shri Mahesh Pathak and his colleagues in the Department of Higher and Technical Education (Shri Jadhav, Dy Secretary) and Dr. Rajan Velukar, Vice-Chancellor of Mumbai University and Prof R S Hande of BCUD for the University support to the committee meetings and deliberations.

CHAPTER 1 - Brief Overview of Higher Education in Maharashtra

Expansion of Higher Education in Maharashtra was essentially seen after the independence in 1947 and it grew faster after the establishment of a separate State of Maharashtra in 1960. The former Bombay Presidency had the pockets of education and culture distributed across very few cities and princely states. Cities like Pune and Bombay had a long tradition of education and scholarship. This tradition has still retained the distinctive nature of the universities belonging to those cities.

Maharashtra has a great tradition of social reforms. During the pre-independence period, education, particularly, the one that was promoted by the schools supported by the British Rule started percolating in the social strata that was not having access earlier. This social and educational expansion continued and spread in all regions, districts and became the basis of further higher education.

Expansion and Educational Development: Qualitative Review

Higher Education (HE) has been an instrument not only of modernization but also for emerging into higher levels of social and economic status and esteem. In a society where majority did not have access to education, this was accepted as a social challenge and educational institutions spread all over Maharashtra at places and people unreached. Many educational institutions and educationists have created educational institutions and used social as well as political powers to spread education. This was legitimate aspiration in the new democracy. Maharashtra has seen rapid growth in social, economic and educational fields and the leadership has come up from all strata and places as well as from rural areas. The sudden expansion and urge to make education an instrument of social justice and status has seen sudden growth. The nature and need of education as a personalized learning process and its social developmental nature has been disregarded under the pressure of numbers. It expanded in many ways.

- Expansion of Higher Education to unreached places: From districts, to blocs and further interior places
- Expanding coverage of socially and economically disadvantaged and poor strata for access to Higher Education.
- Realizing the financial and administrative limitations, the State Government introduced various policies of privatization for receiving support from public and the rich. (No-grant approach, Management quota, Total unit cost based fees, etc).
- Expanded coverage of disciplines and professional areas to make education relevant to professional and technological development of the State

The number of university level institutions has now increased to 42 out of which 22 are public universities (19 State, 1 Central and 2 Institutions of National Importance) and 20 are deemed universities. Out of total 3258 Colleges, 2182 are of arts, science and commerce and the rest are professional and engineering colleges. In addition to these, there are 178 polytechnics, with total enrolment of 32.83 lac students (21 lac in general colleges). The three big universities in the State account for 61 % colleges and 44 % student enrolment.

Clearly the distribution of student enrolment and colleges are concentrated in 3 major cities of Maharashtra and rural area students rush to the cities for better education and job opportunities. The issue is to create a system of education that will keep them in their own districts and give all the urban job and learning opportunities by using globalisation and ICT connectedness. This is a great challenge to be handled by using ICT in higher and technical education.

Three periods of HE expansions:

- More of the same during fifties, sixties, and seventies
- Expansion for professional and technological programs with privatization since eighties
- Introduction of Open Education stream for expansion, better quality and higher access

Challenges NOW

1. Globalization and its demand for quality, standards and competitiveness of education in Maharashtra - regionally, nationally and globally. This is now projecting disregard to quality while expanding the colleges and enrolment. How to raise the quality and standard of colleges and university education uniformly in urban and rural Maharashtra so as to be competitive globally is the major issue. Many other issues of educational management, resources and unethical practices neglected so far are now coming up as hindrances in global competitiveness and in the fast and liberal expansion of education internationally.
2. How to use globalization and liberalisation to enhance job and livelihood opportunities for our graduates now require high priority along with higher quality and competitiveness of education.
3. Problems of equality and justice to the rural and disadvantages students and regional imbalances will be coming up in education quite fast. How to support the disadvantaged learners and use the welfare state approach to ensure equality is another great issue to be addressed.
4. Raising quality, excellence and performance of learners, their learning, of teachers and institutions imparting education by some sustainable means is the main issue before universities in Maharashtra. In such a search, how to use A3 connectedness and access to open and global resources now available through internet access is the question that should attract our high priority.

A globally connected system is emerging; technology is in the developmental stages and bringing up subversive interventions.

A new challenge for all teachers and education institutions is to use the new facilitations for New Education for connected society!

Three streams of Higher Education

1. Formal and Traditional University and College education
2. Non-Formal and Distance and Open Education including dual mode university education
3. Informal /Extra Curricular / Extension Education

Privatisation as well as open and distance education has been adopted nationally as a policy for expansion of educational access in India. Disparities in standards in dual mode universities and open and other universities is always an issue, more of attitude and mind set and less of researched issue. The open and distance education stream has also considered more of expansion and less of quality assurance in some of their programs. This has now created major issues, which are not objectively evaluated, but settled in favour of traditional approach. This is also a major issue and needs to be settled by using ICT connectedness and resource sharing by all the formal and non-formal students. This is now possible when A3 connectedness is created with intimacy of 2G and 3G broadband use.

All these different forms of education - formal, non-formal and informal that includes extension - are now present and accessible to all in Maharashtra in all colleges /universities. However, they are not integrated with curriculum and learning, and, therefore, do not have curricular credits and academic importance.

New Age Challenge

Since the advent of Communication Technologies and their applications in all walks of life, particularly during the last decade, many revolutionary changes are taking place. Creation of global connected society is the outcome. The technology is in the developmental stages and yet to mature. Many new devices and gadgets are entering into the market and in the hands of common people. As per the recent reports of TRAI (Telephone Regulatory Authority of India), 875 millions are already connected by telephony and 827 million carry mobiles with them. Nearly one-third of these connections are in rural areas and its numbers are rising.

The class most distinguished and attracted by the new technologies is the school and college going students and youth. Whether educated or not, they are using these applications for communication. The ICT (Information Communication Technology) has great features that are not available with other technologies. ICT gives access not only to people at distance but also to information and knowledge from all over globe, and youngsters are using not only latest generation of connectivity (2G and 3G) but many are going for self-learning with available free open knowledge resources and taking tests and certification available from all over the world. This scenario creates a new challenge of information age for all teachers, education institutions and the entire education system.

CHAPTER 2 - Educational Needs and Goals

"Learning for Life, Learning from Life and Learning throughout Life"

\- *Mahatma Gandhi on Learning Society*

General Needs of Higher Education

We have completed first decade of the 21st Century. However we are still in the 19th-20th Century framework, and continue with old issues, processes, mechanisms and old approaches. Hybridization of new technologies with old practices is being tried by some. However, this will never lead to a NEW PARADIGM of education, which should use new technologies along with new practices, processes and mechanisms of the post-industrial society. Hybridization is creating many conflicting situations that need radically different approaches, designs and models of education. For example, when knowledge is omnipresent and available to every student anytime anywhere, content based teaching, learning and evaluation becomes meaningless and irrelevant. Instead of learning content based courses and assessing student's mastery in contents, it will be essential to **learn how to learn** various basic processes of **knowing, doing, working together and forming, reforming and transforming by creating and using social wealth and prosperity.**

New technologies are percolating far and wide in all living, working, social organizing and communicating processes globally. Global resources such as Google, YouTube, Blogs, Social Networking sites, Wikipedia are now open for every connected learner. Every new technology has two faces - brighter and darker. New generation has now to be nurtured in what to choose and why? Where to apply and where not to? New Education System has to make 'Searching New Ways' an integral part of learning, teaching, evaluating. Also the system needs to promote and nurture the process of creativity, innovation and entrepreneurship needed in the 21st century society. An Indian student of the **FUTURE** society has to be thinking and reflecting learner and must look at the changes that are taking place all around locally and globally quite critically before accepting and adopting them.

Radical Changes in Education: Linking Education with Development

Human society is now changing from Industrial social order to the new Post-Industrial Society. It is using the new technologies and reorganising itself with adoption of newer technologies and is creating new age practices. Education being sub-system of the existing social order will not remain unaffected.

The forces of change are socio-economic in nature and are guided by the economy and the wealth creation processes which are now becoming increasingly dependent on marketing forces, either global or local. This enables use of education system products, the graduates and educated manpower, in the industry processes of giving products (artefacts) and services. Development of the nation is limited here to employment and increase in GDP needed by the society and nation. The products – artefacts - and services are traded in the society locally and globally by forming regional, national and global markets. This is a wealth creation process. Unfortunately wealth is measured in terms of money and private industries, having the goal of profit maximisation and accruing profits, mostly of monetary nature, influence socio-political and cultural life of the society. Education in such a situation has to play an important role of a change maker with some view of the society - perspective of the future of the society – and prepare the next generation and all learners for their future in this fast changing social scenario.

Changing the social educational environment to achieve co-creativity through group working, and contributing to the Social Capital /Wealth creation

Education is to be linked with development; with self-development, including institutional development or/and social development, in which the system relies on the financial support either by creating wealth or by receiving grants-in-aid support. The system also enters into the activity zone in which moral values and ethical practices come into play. Education system so far remained isolated from social development, which culminates into wealth creation. The two stages– learning stage and working & earning stage - were isolated and are usually liked by the academia, since they were systemically separated. In a class creating educational system, this is inevitable and is left to the managers of powers that may operate in all three main forms of power- political, economic and knowledge.

Linking education with social development has therefore to face all these problems. However education when linked with social development uses newer learning processes such as cooperative learning: **production learning, service learning, experiential learning,** etc. Their nurturance is linked with working in small or big groups, and the value system and goal of working are adopted by the group in the nature of a group work culture. This group working and learning also require well accepted social organisational principles. They really control the goals, the forms of wealth creation, monetary and non-monetary. Further, the other forms of wealth – knowledge wealth, technology wealth, social wealth, ethical and moral wealth, and natural wealth– are of non monetary in nature and are not given due importance. Unfortunately, their conversion into monetary wealth alone is deciding the nature of marketing transactions. Market is therefore unavoidable if social development and livelihood creation is to be associated with education. The educational transactions have to be linked with all these wealth in this age of life-long-learning and development for socio-economic growth and progress. The education therefore has to play a fundamental role in shaping the minds and ways of thinking and working together of the younger

generation. We, therefore, need "**radically reconstructed education**" system appropriate to link education with social development in the ICT connected society.

In India, 83 crore people are already connected by mobile cell phones, and the rest will be connected within the next 5-10 years with increasingly intimate technologies of communication. When **anyone** is connected to **any other anytime anywhere**, we are creating closely or A3 (Anywhere, Anyone, Anytime) connected people located at their places and times and are creating **New Connected Society** (A3-Connected Society).

Essential Approaches for Educational System

Focus of education NOW in 21st century should be to create FUTUREs. Educational goal changes from only knowledge or information acquisition to its application to the future scenarios being created now and in the existing situations in the areas of:

1. Scientific and technological development and emergence of techno-society
2. Socio-economic development and change
3. Cultural and wealth creation processes based on ethics, values and social change forming secure and just society of the future
4. Empowering and Developing creativity, innovation and entrepreneurship for creating personal and social wealth and prosperity
5. Producing and co-creating Social Common Wealth (Open Resources and Wiki-organizations) for economy of permanence

The processes and results should provide access to all with equality and justice and offer equal opportunity for all learners to get success in life and work.

Major approaches:

1. Avoid **One-fit-for-all & More-of-the-same** approaches and promote group customization and mass-personalization by creating and using appropriate technologies (LMS, e-Platform etc).
2. Change **Content and Teacher centric education TO Learner and Learning centric education** with **Wholesome** Learner Development, that includes:
   - Self-development (Capacity development in terms of **Knowledge and Skills**)
   - Social-development (Capability development in terms of Application, **ethical/attitudinal and social behaviour**)
   - Personality Framework Development (In terms of values and social attitudes and behaviour nurtured in learner through *learning to be* and forming self.)
3. Create '**Marketing FOR Society' (Social Marketing) NOT 'Marketing OF Society':** This appears to be the main issue of social and economic development linked with education. Markets and trading is essential to convert one type of wealth into another in the give and take process. The transactions are either at the personal, social or financial trading /marketing levels and are broadly referred to as the 'business' process. Our approach is to prefer and promote, in the present connected society context, **social business model,** entirely based on ethical and moral values to ensure equality and justice for all in the Indian democratic polity.

The focus of New Education is therefore to be on learner and his/her group work and their transactions of learning and developing, creating values of cultural and socially useful and productive nature. This will also need the environment of the social education based on cultural and socio-historical heritage of development processes of Maharashtra. The goal should be to achieve co-creativity through group working, and contributing to the Social Capital /Wealth creation. The New Education should therefore promote not only personalised learning but also cooperative and mass-collaborative working (such as Wiki processes resulting into Wikipedia) to achieve common social and national development goals. In all such change processes it is essential to start from **NOW**, where we are and go on making radical changes in the education system. Creating **FUTURE** through education is embedded in changing attitude and practices of the existing socio-economic and cultural systems. Changing social educational environment is therefore a great challenge. The Innovation Eco System will enable to change the environment within a short period under the compulsion of developmental needs with universal values and culture. Since learning is to cover everyone in the Learning Society, the goals of learning are changing to creativity and innovation. This environment is, therefore, called as the Innovation Eco-System (I-Eco-System) in our Report.

Specific Needs Placed Before the Committee on Sub-division of Universities

The Committee on Sub-division of Universities is essentially given a task to find out solutions to ensure:

1. **Quality in Higher Education**
   - As the universities are overburdened with administration and evaluation work, Quality of education has gone down in research and PG and UG education.
   - With some exceptions, majority of students do not get right kind of education with high quality and performance excellence. This has reduced employability of students in India and abroad.
2. **Quantity in Higher Education**
   - Number of students in the classroom is very high. Higher Secondary, particularly the (Junior) colleges have created resource constraints on the college campuses and increased administrative and student number related issues. Teachers are mostly engaged in teaching content and are not doing research. They are not able to absorb global changes in their courses. Teacher's personal attention to a student work is practically impossible. This has reduced their ability to make their teaching relevant to the individual needs as well as the needs of the modern and future society. Universities are faced with large number of colleges; and their affiliation and management problems dominate in academic bodies.
   - Relevance in education is highly essential. However, mass education given in classrooms is not linked with applications to job and livelihood opportunities. This linkage is essential particularly at the Under Graduate level.
3. **Globalization of education with global employment opportunities enabling access to global resources requires changed approaches in education.**
   - This not only requires raising the quality bar and cost-competitiveness but also aiming at higher performance excellence and making the learning creative/innovative.

- In professional courses, students should be developed to be job ready and should be given work opportunities. The student should be trained with latest technologies and work processes.
- Use of existing resources, creating new Open Resources and promoting open resource movement and wiki-processes and organizations is essential in higher education.

Education, in general, needs radical changes and the Higher Education system should be so designed that it will serve the purpose of creating a world class post-industrial society in India. This is a great challenge and opportunity for all educationists and social and economic leaders. This is a new age creating opportunity and should not be missed by Maharashtra and India.

Comm - 3 task is to suggest and recommend the system of education that will give the correct approaches, directions and ways to evolve the solution to the illusive triangle of quality, quantity and equality in education (Quality Education for All - J P Naik).

CHAPTER 3 - Philosophical and Methodological Approaches

"Education is essentially Yoga, Udyoga and Sahayoga"

- *Vinoba Bhave*

In this Chapter we consider, very briefly, the Foundational Approaches for the New Education Paradigm for the New Age (post-industrial age). The approaches have to be based on technology independent ways of education developed through Ages by great educationists and philosophers of India and the world. They will help us in finding right approaches and directions of development of the New Education in a completely New Age Society being created by new technologies, social empowerment generated by massification of new technologies and sharing benefits and having power in the new society organizations.

Various Approaches

There are many approaches and programs that have been evolved during the last century and the first decade of this 21st century. They essentially consider education in a holistic way and link it with development and social change. They include:

1. UNESCO's FOUR Pillars of Education for 'Learning To Be'.
2. Education for Sustainable Development (UNESCO- Decade of E4SD- 2005-14 & achieving MDGs (Millennium Development Goals))
3. Education is: Yoga, Udyoga, Sahayoga (Vinoba Bhave)
4. Life-Long-Learning in Knowledge / Information Society (Post modernity need)
5. Learning for Life, Learning from Life and Learning throughout Life (Mahatma Gandhi)
6. Education for Creating Futures for each student/learner and society. (J P Naik)
7. *National Education System* linking *Education and National Development* (Education Commission Report (1966))
8. *Open Resource development movement* for Creating Learning and Developmental Commons and pooling generosity of the society.
9. *Creating Economy of Permanence* based on social values of voluntary and selfless services. (J C Kumarappa)

All these approaches and their values need to be taken into account while designing and developing a New Age Education.

Prevailing Model of Education

Prevailing Model of Education, the Western Model, is useful for Capacity (Knowledge + Skills) Development. It is a form of Industrial Model of education and is designed on the industrial processes of linearity, conformity and bunching (Class creation model). This obviously relies on the needs of the industry and its mass production and global marketing processes essential for wealth creation and employment. The industrial process is hierarchical and factory management and their power and work are distribution for the goal achievement of the industry or the owner of industry, the corporation. Education has to support the processes for living; working becomes the essential part of the industrial culture and model of production and marketing. Usual goal is the maximization of production, productivity, marketing shares and monetary profits. Humans are being treated as the 'resources' for industry / factory or as the customers for selling products. This makes every human being either a cog in the social machine to earn money or a customer. Separation of production and consumption processes and linking all industrial jobs in and around the factory /industry is the nature of the working of the industry and its supporting society. Main features are conveyer belt operations, division of work, work specialization and its routine and observance of well-defined product and service features (global or ISO standards of quality) for factory /industry work output.

Prevailing mode of education tests mostly for the mastery in content, the knowledge and associated skills; but this mode does not promote cooperative learning.

In general, industry or working is the basis of social wealth and social welfare creation process in any society. Industrial age process of mass production and global marketing are not the processes of equality and justice for all in the society. Mass production and mass-marketing take away many livelihood processes from common people. Earlier in Agrarian Age, they were trained in various skills which were socially useful and accessible to every common person. Factory mass production and mass-marketing are obviously exploitative processes for undeveloped human societies and for natural resources. All the issues of disparities and poverty are arising out of this model, unless the industry leaders take the role of becoming trustees of the wealth created and use human and natural resources with non-exploitation and to create culture of permanence. Furthermore, the wealth accumulation at the cost of other social wealth usually creates many harmful impacts on society. They slowly translate marketing ***for*** society into marketing ***of*** society. The society creates producer and customer classes and brings in inequality between the two. The whole process is more of competition and not of cooperation. In such a scenario, even though there are some good aspects of promoting creativity and innovation, wealth generation becomes a great motivator. The education system also supports the same values, the class creation and competitive approach.

The existing education model is useful to impart knowledge on the basis of accumulated knowledge resources available in libraries and with experts. It tests mostly for the mastery in content, the knowledge and associated skills and has '*conformity to standards'* as the main quality aspect. Certification enables learner to obtain jobs or further admissions to higher learning and specialized positions. This upgrade 'class' path has been very high motivation for learning and getting degrees and higher positions in careers. The model is highly competitive, standardized

and does not promote cooperative learning and working together in the education programs. Certainly this is not a mass education system promoting equality and justice for all.

Further, this model separates learning and working periods in life: one-time learning and all- time application in working during employment/working period. With the changing scenario and with A3 connectedness, access to knowledge resources is now available to every learner anytime anywhere. This has created a new scenario and need for a different education model.

UNESCO’S Four Pillars of Education

Sr. No.	Process Learning to	Result	
		Personal Development	**Group / Social Development**
1	Know	Knowledge	Social Knowledge
2	Do	Skills -Competencies	Social Expertise
3	Work Together	Cooperative / Collaborative Learning	Social Wealth/Capital creation (Monetary and Non-Monetary) (**Udyoga**)
4	Be	Self-Formation & Self-development (**Yoga**)	Social Development: Social Reconstruction, Formation and Transformation (**Sahayoga**)

UNESCO has given basic processes of learning and forming and transforming as:

- Learning to know
- Learning to do
- Learning to work together
- Learning to be

These processes, as given in the table, show briefly the links with the learning processes for knowledge, skills, applications and self-change and self formation in cases of individual and group learning. They can be used for groups with added processes of cooperative learning and developing, and formation and transformation of individual and group through working and developing. Thus the processes get linked with the educational processes of **Yoga, Udyoga (Industry) and Sahayoga (Co-operative Industry)**. These are personalized and group processes. If pursued for all the life, it becomes L3 and finding one’s own goals and paths in life and work.

Learning & Development Paths are to be used for learning to be, preferably as a **Universal Man in a Global Society** with Universal Human Values (with core values and principles as given in the Indian Constitution). Paths have to follow the stages of:

Learning → Development → Value Creation → Transformation

How to make all these processes and stages of development an integral part of the education is the main task for the education of the A3 Connected Society.

Model of Work-Centric Learning and Developing

A connected society with omnipresence of knowledge on www and open resource movement gaining grounds, knowledge in multiple media formats is now available to anyone anytime. This requires education to be linked with development, wealth creation and social transformation processes for an individual and a group or institution in their processes of learning and developing. The best model of education proposed in 1936 after experimentation of nearly four decades, is the model of Nai Talim or New Education proposed by Mahatma Gandhi. This model can be expressed as a recursive equation:

Education + Work + Technology ⇄ **Socially Useful and Productive Work (SUPW)**

This promotes process of New Education (Nai Talim: Work centric learning based on basic industry processes) linked to Social Productivity and Social Usefulness of work (SUPW). Quality assurance is in the PROCESS and RESULTS (SUPW) and in the outcomes of work in terms of products (artefacts) and services provided. They are produced in terms of better work that is enriched with knowledge and technology, which, in Gandhian approach, is to be used rather non-exploitative and non-destructive way while making and doing **wholesome** work (**Wholesome** work is the work that contains **simultaneously** *Routine, Rest, Progress and Pleasure*)

The New Age Education is a mass-education based on work centric learning leading to process of education for reconstruction and transformation of society.

Considerations of Quality and Excellence

Work based learning is useful for CAPABILITY Development (measured in terms of applications done, ethics and values observed and social behaviour displayed in working together). It is also linked with **perspective quality** of products and productivity. Quality in this respect is of

- Relevance (Fitness for the purpose)
- User / Worker Satisfaction (Value for the money)
- Transformative Value in personal and social change

These aspects along with standardised quality provide a sequence of quality improvement process that forms the quest for excellence - an internal quality improvement process of an individual, or group or an institution. (Quality is what is demanded, and excellence is what is achieved. The internal process of raising quality in the processes of **standardisation, relevance,**

satisfaction and transformation forms the process of excellence. This could be adopted as the operational definition of the excellence).

Educational Model for Creating Futures

J P Naik in the last publication of his life (Book on The Education Commission and After, 1981) has given five lessons to create FUTURES, which give deeper insights in formative and transformative processes in society. They can be used as the Founding Principles or – **Mantras of Lessons** for designing '***New Education' for Creating Futures:***

1. Create a Picture of a FUTURE society
2. Link education with society (Social Developmental Education)
3. **Socio-economic transformation** is always accompanied by '**radical reconstruction of education**'
4. Individual and Society has to pay the 'price' for creating a National /Social System of Education
5. **Every citizen and every social group is an actor** (Change Maker) with its own unique role in the Social System of Education

We use these 5-Lessons as Approaches for the New Age Education starting from NOW to create FUTURES for every student and their groups (Family, Pariwar and Community).

Essential Features for the New Education of New Age

The A3 Connected society will now need a **New Education Paradigm and System** that should incorporate:

1. **Educational Information Communication Technology (ICT) Infrastructure** which connects learners, providers of educational services and all developers and transformers into a single network - the Knowledge and Development Network - accessible to all. The ICT Network is used to create a **'level-playing–field'** by using **state-of-the-art technologies** for all learners.
2. **Mass Education Model** (Work-Centric Learning) that can enable students to learn throughout their life and transform oneself into a wholesome personality with a chosen career by working and creating wealth for self, family, pariwar and communities.
3. **New Education** should be able to **create futures** for every learner and their groups, institutions and society.
4. **All citizens** should be enabled to participate in this **Social and National Education and Development system**, and should work and perform **their unique roles** as well as role of **change makers** in achieving their personal and social goals.

This is a **mass-education** approach based on **work centric learning** leading to process of education for **reconstruction and transformation of society**. In order to create New Society of the post-industrial age, it is essential to create education system with connected network and e-platform with resources and services that gives access and helps all students / learners in getting success.

Context of Globally Connected People and Knowledge Society

The emerging connected society and knowledge based economy will no doubt need highly flexible, need based education at different levels, in various fields of social and economic activities. By considering the number of colleges and their growth rate, the National Knowledge Commission of India has recommended one university per 150 colleges. Maharashtra alone will need more universities than one per district. As in the other developing counties, Higher Education GER (Gross Enrolment Ratio) in India is expected to go above 30 within this decade.

On the question, “Will universities become extinct in the networked world?” Prof Jim Taylor (Taylor, 2004) argued that the present traditional approaches based on conventional classroom teaching and learning and a hierarchical, bureaucratic academic structure would not be capable of meeting the escalating demand for higher education in the knowledge based society, and that universities must therefore adapt or face the fate of the dinosaurs.

For many institutions, as Taylor predicted, survival in an increasingly globally competitive world has necessitated change and the search for new markets / employment opportunities and value creation opportunities. The labels ‘virtual education’, ‘on-line learning’ and ‘e-learning’ have emerged to describe the application of ICT to enhance distance education, implement open learning policies, make learning activities more flexible and enable these learning activities to be distributed among many learning venues. (Farrell, 2001). This is easily enabled by the A3 connected global society.

Generations of Technology Used in Open and Distance Education

Prof Jim Taylor (2000) identifies 5 generations of Distance Education Technology/ systems:

1. The Correspondence Model
2. The Multimedia Model
3. The Telelearning Model
4. The Flexible Learning Model
5. The Intelligent Flexible Learning Model

Prof Jim Taylor charts their characteristics in terms of their flexibility as to time, place and pace of study, the refinement of the learning materials, the level of interactivity characteristic of the predominant media used and the impact on institutional variable costs.

Allen and Seaman (2003) have classified the first four *types of courses* on the basis of proportion of the content delivered online:

1. Traditional
2. Web facilitated
3. Blended / Hybrid

4. Online

All these are dependent on delivery of content; delivery of learning materials and learning services offered through internet and network by using various connecting devices- online and mobile. The online category may not have any face-to-face communication; it may be through devices such as Distributed Classroom and guided by tutors and mentors who offer personalised or group customised support services.

Important features of these FIVE generations of tele-learning are the separation of ‘distance’ between provider of education and student learning at a distance. With 3G connectivity, the audio-visual distance is vanishing, except the limitations of media of communications. The five generations are provider lead- the provider-receiver model of education. (pl ref Review by Andrea Hope, 2010)

All the distinctions between various modes of education or technologies vanish when students come on platform with A3 connectedness. This mode of education has no parallel in the history. A mode of education, called in sequence the 6th Generation Learning (6GL) model, is of education system in which all the learning resources, static as well as dynamic, are provided ON-PLATFORM. This resembles *Jatra* or Mall model of provisions in which education system is supported by teachers by guiding students in why, what, how and where to choose for shaping the futures of students in life and work. With the help of the e-Platform and all its transformative power, we will be creating a new paradigm of education - the transmode of education. In the new mode also, we will have to face the last mile problems of the modes of education, which we are currently using.

e-Platform Becomes the Trans-Platform

A new paradigm of education will be created through **e-Platform** on which all the latest learning tools and technologies useful for personalised and group learning will be provided. The e-platform automatically records all the individual and group activities and interactivities and allows the study of processes of learning and working together. This platform enables to offer support services on e-Platform; and helps creating level playing field for all.

Due to A3 connectedness, the e-Platform services and provisions can offer support and scaffolds to learners for the services of the type of *‘just-in-time’* and *‘just-for-me/us’* This platform is therefore a transforming mechanism that can be created by all providers of education and learning and developing communities by working together.

The e-Platform enables to create New Paradigm of education once all the resources, global as well as local, and static as well as dynamic, are made available on the e-Platform. The education is not of the **provider** to customer / receiver type but **selection** by customer/receiver supported by tutors and mentors. In this paradigm, tutors and mentors have to play important roles. Simultaneously all the educational providers, the State and society have to join hands in creating such a ‘level playing field’ for all. Learners have to be supported by the appropriate policies to ensure equality and justice for educational access and opportunities for learning and developing, creating and innovating, and to create wealth -monetary as well as non-monetary. The e-Platform

will also create organised and promoted processes of real and virtual organisations of learners and teachers into learning and developing communities so as to achieve the goals of social and national development. The Wiki processes of mass-collaboration and cooperation are the consequences of working on a platform. These are the multiple learning opportunities one gets in a connected society.

Highly personalised processes can now be added with cooperative learning, developing and working together processes in small group and mass-collaborative formats to create common wealth /capital for social good. The wiki processes and practices will change the nature of society and the world emerging.

With mass-collaborative and community cooperative working processes, the people can create socio-economic commons essential for total social development. This Platform may contain all the Open Education Resources (OER), global as well as local, created by all learners, teachers/experts and practitioners. They can be managed by self-governance and autonomy by small /large groups and communities with special interests. The transformative power of the platform depends of the OERs - knowledge, technology and other resources required for development, as well as the commitment and generosity of the people in collecting and contributing commons for all. Many paradigms of development could be created to develop many FUTURES appropriate for the individual and social aspirations within the framework of global human values and accepted social organisational principals. (as in the Indian Constitution).

Transition from NOW TO FUTURE

- Existing education system should go through radical reconstruction changes by using internet and forming connected society in which formal, non-formal and informal modes of education loses their distinction. This is a change **from NOW existing distinct modes (formal & non-formal) to the Technology Mediated Open and Distance Education (Tech-MODE) mode** for enabling access to all eligible learners. Higher Education for ALL learners with own-time learning and developing is now a distinct possibility. This is a hybridization of old model of education with new technologies that are promoting new models of education. (Hybrid or Transient Models of education)
- Distinction between the three modes (**Formal, Non-formal & Informal**) is completely eliminated when new processes and mechanisms created by the ICT are being used by the new society. The A3 connected society not only uses new technologies of communication, networking and new ways of management, but also changes ways of learning and developing. It is a **Trans-Mode Education** with processes and mechanisms created by ICT and used in the A3 connected people all over the world. The education becomes a great transforming instrument. This transformation is enabled by the **transforming platform** created especially for the education with use of LMS, support services for learning and open resources of knowledge, tools and technologies that are made available on e-Platform to every networked learner and developer.

Transition from

Formal

+

***Non-Formal** Stream Integrated Modes of Education to Integrated NEW Education*

- ***In such a scenario, no distinction exists between formal and non-formal courses.*** **Same courses and methods of communicating - Learning – Teaching - Evaluating could be used in real face-to-face and in virtual situations.**

Educational Concepts that can be used in Post-Industrial Society

Many of the concepts that are either not age-dependent or dependent on the new age processes can be adopted in creating new paradigm of education for the new ICT based society. Some of them are:

- Nai Talim by **Mahatma Gandhi** - (New Educational System): It is a work**-centric learning** for producing Socially Useful and Productive Work (SUPW).

Education + Work + Technology ⇄ **Wholesome Work / SUPW**

- New Age with Open Resource movement (Wikipedia and Wikis) and omnipresence of knowledge changes the basic concepts and goals of education:
  - ‘Move from Class to Mass’ Education; from teacher/content centric learning to application centric learning.
  - Is based on continuous innovations / renewals of all that is involved in learning and working. (C K Prahalad, the Management Guru, calls ‘21st Century’ as the ‘Age of Innovation’)
- **Move to Process-Result Based Education** and have pursuit of *Yoga, Udyoga and Sahayoga* as a part of life-long-learning. They are implied in the Four Pillars of Education of UNESCO. They are also similar to Baldrige Model approach for development and performance excellence in education, a variation of CMM (Capability Maturation Model). It is based on **levels of achievement in Learning and Development**.
- Educational Courses could be designed on **Role Based Education** with **unique role** as well as **change maker role** that can be identified and acquired by each learner or their groups in their living and working life.
- **Trusteeship or sharing ones creativity and generosity with people of the society/world**: Each one can consider himself or herself as a trustee of whatever one is having in excess; or can create something one is capable of for society and share it with all others (*Dana* as a *Dharma*) through wiki processes (accountable and open way of sharing). This enables to create learning and developmental commons for all, and gives opportunity to create a society based on equality and justice.
- **Move from** prevailing ***Transient economy TO Economy of Permanence***; based on Sustainability and Core Values and Founding Principles as given in the Indian Constitution.
- **Peer learning** and **self-organization** start appearing and dominating in social action when latest technologies of communication are made available to all. (Clay Shirky: Here Comes Everybody) and people get organizational power without organization.

Post-Modernity Empowerment of Every Learner

- Transition in humanity is from:

Tribal Society → **Agriculture Society** → **Industrial Society** → **Knowledge/Information Society**

- Every age has added social structures and mechanisms for the prosperity, security, peace and happiness of people.
  - Tribal Age has shown the ways of living with PLENTY of natural resources.
  - Agrarian Age has added personalized processes of development and social organization with wealth production for safe and secure living.
  - Industrial Age has added globalization, mass-production and global marketing systems to achieve national development, productivity and wealth
  - Post Modern Society is producing PLENTY due to automated production systems, sharing resource globally and socially and making available decentralized and autonomous ways of learning and development that promote cultures and creativity.
- Post-industrial society needs Access and Support of Learning & Developmental Services to everyone through:
  - A3 Connectivity
  - Processing Power
  - Access to OER (Global + Local)
  - Contribution and access to large information databases: Creation and analysis of mega data / Information created by developers and service providers in the network
- Change Education FOCUS ***FROM*** Content Based Mastery ***TO*** Innovation, Creativity and Entrepreneurship based development /transformation:

  Content is just a vehicle; however, one needs domain knowledge and expertise in solving related issues of deeper and wider nature.

Education and Teacher Roles in Educational Revolution (Social Reconstruction and Transformation)

Employment of New Age technologies may lead to ***Educational Revolution (Social Reconstruction and Transformation)***. Role of teachers is to:

- **Play multiple roles**: Researcher, Developer, Teacher (Tutor and Mentor), Guide etc to support students Learning and Developing- individually and socially
- **Guide and shape the CHANGES** by giving scaffolds of Teacher Services to form a learner/student, their groups/communities and their institutions

- **Follow Constructivist Learning approach** (Work/Activity Based learning with Assignments and Project based study)
- **Promote Wiki processes, Quality of Wiki resources** and their use for innovation and creativity
- **Create Learning and Development Groups, Pariwars and Communities** and participate and lead in their open learn processes

In this educational revolution and evolution of highly decentralized and autonomous learning and development centric education system, everyone is a change maker and has to carry out their respective unique role in the social change processes. The selfish forces of seeking power and exploiting common or personal wealth for selfish living is constantly opposed by the self-less and voluntary social workers from society. This eternal conflict between power and morality in the mass developmental education system has to find its permanent resolution by strengthening democracy with empowerment to common people and participatory decision making in creating economy of permanence.

Education based empowerment with decentralized, autonomous and Enlightened Self-Governance by using mass-education processes is the final goal of education. It could be linked to *antyodaya* and *sarvodaya*.

Constructivist Role Based Learning Model for A3 Communities:

Project by I-CONSENT

The Nai Talim model did not survive and grow in the shadow of British Education Model adopted during the British rule. It had basic contradiction in its design that it was work centric, highly decentralised and personalised and was not appropriate for the Centralised Factory Model of Education based on linearity, conformity and promoting groupings or classes.

Revival of Nai Talim through New Education for A3 Connected Society

However, the nature of post-modern society is highly decentralised, mass-personalised and shares the resources and experiences openly and generously with all globally. This changed scenario of the Information Age makes the situation very appropriate to revive the Nai Talim in the context of A3 Connectedness and omnipresence of information and knowledge.

A group of dozen institutions, consisting of university departments, a college, research institutions, IT Corporation and NGOs have formed a consortium called I-CONSENT (Indian Consortium for Educational Transformation) and are evolving a new educational model based on constructivist learning- a Scenario-Situation Based Learning Model. The efforts are supported by the Commonwealth of Learning (COL), Vancouver, Canada.

The Education Model is based on:

- Mahatma Gandhi's work centric learning (Learning + Work + Technology ←→ Wholesome Work (SUPW))

- Mahatma Gandhi's Life-Centric Education (Education → Self and Social Development → Value and Wealth Creation → Personal and Social Transformation)
- J P Naik's Five Lessons for Creating Futures. (Role based working for creating futures by doing unique personal and group roles in real life by following learning and development paths with specific goals with mile stones)

The applications of these approaches have resulted in Future-Now approaches - Scenario/Situation Based Learning, obtained by playing different roles in various scenarios created from real life and work situations that are related to creating futures. Learning and working is through activities resulting into work (Socially Useful and Productive Work). The work needs to be made 'wholesome' by doing iterative processes or reform loops for improving and internalising learning obtained from every iterative and development process (Developmental Learning). The learning and development is obtained through process of *Samavaya* (equal expenditure) of learning **for** development and learning **from** development.

Constructivist Future Now Education Model: the New Education

Development centric education has both the earnings - learning as well as self and social development as outcomes. Constructivist Future-Now Education methodology has outcomes obtained as learning and development, self as well as social, by doing activities and working in real life and work situations.

Money marketing or alternatively social marketing the work output leads to wealth creation both of monetary as well as non-monetary nature. This value creation process is the enrichment of the personal, group and social wealth. The non-monetary and non-physical wealth is of unlimited nature in the digital world, and needs no processes of societal and natural resource exploitation. Such wealths include Knowledge Wealth, Technology Wealth, Social Organisational Wealth and Ethical and Moral Wealth. Human survival is dependent on the natural wealth available with communities, societies, nations and the World. Preservation and enhancement of natural resources therefore becomes the responsibility of all and each one, since its growth has always a limit.

Industrial society model placed heavy emphasis on personal excellence and motivation, and therefore has self and competitive development as an important motivation for growth and prosperity. The model is a capitalist development model of education and of monetary wealth development. Money motivation is dominating and becoming prime mover to action.

Development in which we create wealth of any nature needs group working and learning together (Co-operative Learning) and brings in a value system of different nature in working and sharing processes. In a factory model, the collective action is organised on a conveyor belt operations and is not a creative or wholesome work.

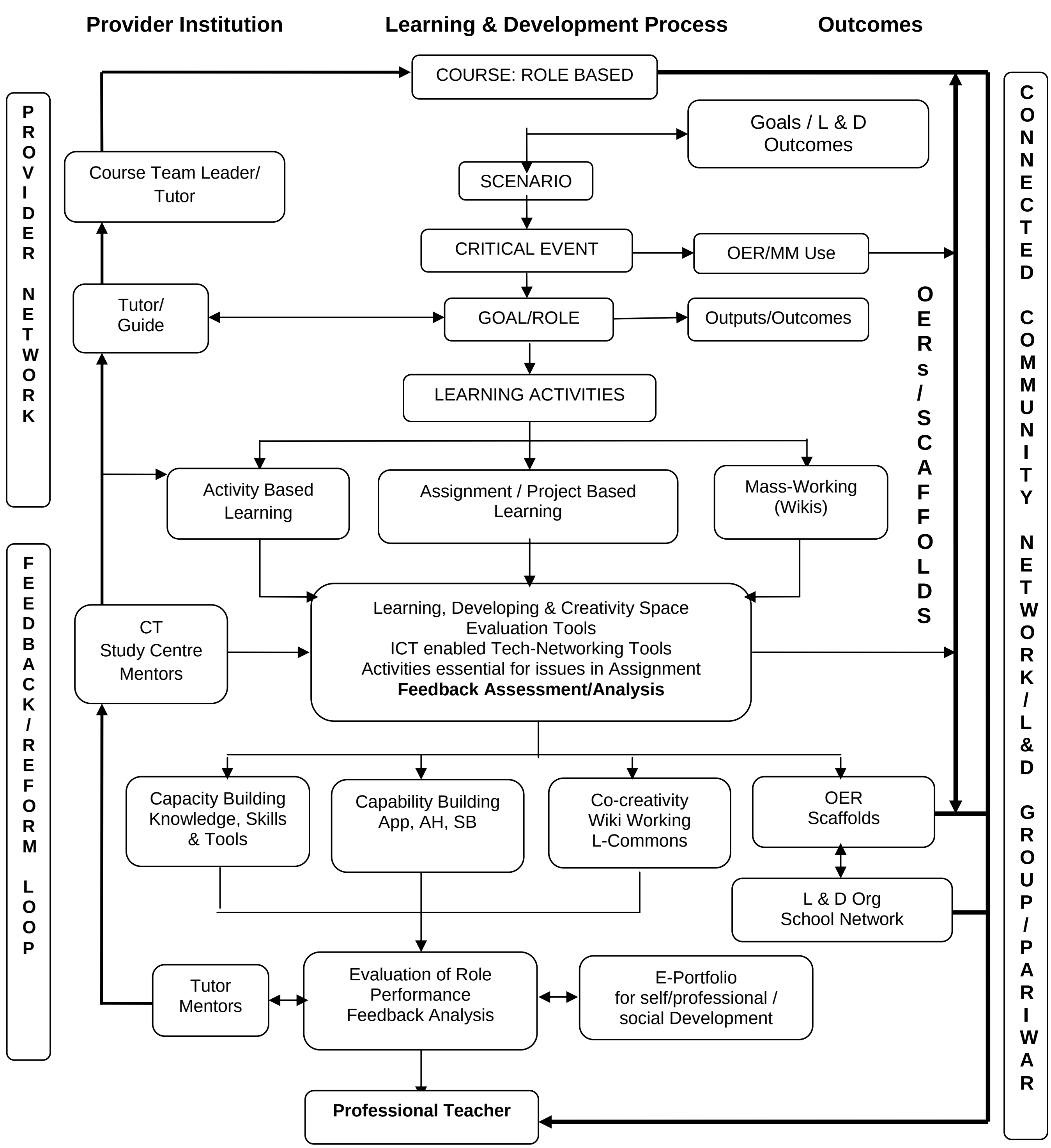
In the A3 connected society, we promote wholesome work with creativity on e-Platform with cooperative working. These are the co-creation processes in which mass collaboration work (Wiki process) can lead to social wealth to be shared with all. This is a new co-creation process for wealth creation by all connected people and can form an important part of the A3 Connected society.

Wealth creation does not automatically lead to self and social transformation. It is also a process of Yoga; and needs self-developmental process of reflections and self control that should lead to changes in one's views, attitudes and practices in personal and social life. This is a personality framework development and should be a part of every learning and self educative developmental process. The Constructivist Method adds a personal portfolio development in which personal framework development is very important.

The model is given in the form of a chart on the next page. Though developed for teacher education, it can be used in every degree learning program linked with application of the knowledge to life and work situations. The program is based on a role based course, and the course content is the list of concepts essential to learn role related knowledge and skills (cognitive as well as tool based), which are related to issues and problems in playing that role and for delivering the outputs - performance. Role playing has to pay attention to the learning of processes essential in doing the role better and giving the superior performance - the process-result/ performance based learning and developing. The level of performance depends on personal talents and work done to obtain the performance. The problems in role playing are obtained from the scenario- situated based issues faced by the individual or group and has not only personalisation but also localisation / situationalisation. The assignment evaluation is to be done by the tutors and mentors who are observing student's learning -and performing.

The Chart gives the I-CONSENT Constructivist Role Based Learning Model.

I-CONSENT: Constructivist Role Based Learning Model



Following mechanisms are used in the Role Based Learning Model:

1. Process-Result Based study: Input, process (throughput) and output and outcomes
2. Provider Institution:
   a. Course Provider Institution and its Course Team (CT) for development and deployment of the course
   b. Tutors working with Course Team
   c. Mentors at the Study Centre for localisation and personalisation
   d. Tutors and Mentors under the guidance of Course Team do the performance evaluation
3. Process of Learning and Developing:
   a. Role Based Course with outputs and outcomes
   b. Learning related content for role playing (Knowledge and Skills)
   c. Activities given by the CT along with Scaffolds – leads to **Capacity Development**
   d. Assignments and issues /problems in the situation of the role. Personal and group study and performance
   e. Report of Assignment work: **Capability Development** evaluated through application success, attitude displayed and group work and the personal role in the group playing and their result.
4. Learning, Development and Creativity Space: Specific to every student /group to display their talent and innovations.
5. **Co-Creativity** work by:
   a. Groups and their pariwars to achieve group performance
   b. All contributing to the common work theme to create social wealth
6. E- Portfolio preparation by the student with his/her teachers – tutors, mentors, guides - comments and evalutation and expressed in the portfolio for presentation and performance evaluation. It has the components of:
   a. Personal Portfolio with self and professional development records
   b. Personal Framework Development Portfolio
   c. Group Work Portfolio
   d. Group Framework Development Portfolio

   The portfolio are used for the Term-End and Program-End Comprehensive Evaluation
7. Outcomes:
   a. Learning
   b. Development
      i. Personal, group and social wealth creation
      ii. Forming Learning and Developing pariwars and communities

The devices and mechanisms can form operational mechanisms for any degree and course program. Further peer evaluation processes in various open forum on e-platform could be used for learning and developing.

In Conclusion

New Education should aim at creating such an education system based on open education resources and access to all the learning and developing tools. It obviously needs different management system. It cannot be hierarchical, controlled from the top to bottom. This will need some foundational social organizational principles in small and big group working. The basis is what is given in the Indian Constitution - democracy for participative decision making, secular and self- and autonomous social governance starting from bottom.

CHAPTER 4 - New Education for A3 Connected Society

"The problems cannot be solved at the same level of awareness at which they are created."

- *Albert Einstein*

General Approaches

Since the emergence of A3 Connected People with global connectivity, the broadband width is increasing from one generation to another rapidly. (We have now 1G and 2G (Second Generation) connectivity, moving on to 3G and preparing for 4G). Today's techno savvy people are the young generation. Children take to technology very fast. This is the next generation which is going to be intimately connected from anywhere anytime. They are demonstrating one of the best principles of learning - the effectiveness of the activity based and autonomous way of learning with peer support.

Further, the ICT and other technologies are creating new knowledge and communication based economy. The socio-economic scenario, which is getting created now, is radically different from the 20th century society. Education has to respond to this unfolding scenario whose nature is unclear now. The future scenario will also be changing fast and is unknown. It depends on the perspectives of the technological and social leaders the world and India can have. Hence our model of education has to be founded on the basis that will not change even though technologies change substantially. Past technology (Industrial Society) based models are of no use in the 21st Century Society, except the universals and invariables they incorporate. Under the guidance of Dr Sam Petroda and others, a national program is being undertaken to create Information Communication Infrastructure for India. The education system being a sub-system of the existing social system therefore needs its own infrastructure to produce and disseminate educational products and services. Our objective of the education system and its learning and developing outcomes should be clear so as to participate in the process of reconstruction of the new education system of the connected society.

In a country like India, with a wde disparities, people even today live in tribal and purely agrarian societies. Now the urban societies are industrial communities of the 19-20th centuries; and ICT related people are already entering into the post industrial age of the 21st century. It is therefore essential to link education with not only self development of a learner, but also with social development, social reconstruction and social transformation. Earlier age societies, tribal and

agrarian, should be given special provisions for leap-frogging to the new knowledge society of the 21st century by keeping their universals in their social culture and practices.

Because of the use of broadband connectivity, networking and falling prices of access devices like cell phones and lap or palm tops, learning can be linked with working and value creating processes of a learner anywhere anytime. The use of technology therefore can be employed to offer access to '*Quality Higher Education for ALL'*. The biggest challenge is to design appropriate New Age education system that will be really democratic, secular and socialistic (autonomous and self-governed pariwar and communities) as demanded by the Indian Constitution.

Past Experience of Sub-division of Universities

After creation of a new university by identifying its jurisdiction, time required by a new university to come up to some acceptable standards is quite long for various reasons. It usually requires anywhere between 10-20 years to acquire comparable standards. During this period, students and parents from the region do suffer; some of them go outside the university jurisdiction for better facilities and places of learning.

How ICT and Networking Can Help?

The use of technology can be employed to offer access to

'Quality Higher Education for ALL'.

Use of ICT and networking that connects all students, teachers and educational institutions with their support services, could be used to speed up the process of equalization of standards. ICT can be used for all universities and colleges to supplement and complement the existing course teaching-learning-evaluation system. This requires IT literacy and networking with mechanisms that will support every learner with appropriate personalized services. This eliminates the difference between distance education and campus based formal education systems. The campus based and field based teaching-learning systems required for a course delivery (teaching) and by learners (learning) in this could be the same. This is integration of formal and non-formal system of education and is possible only because of A3 connectedness now available.

Network of Department of Higher and Technical Education and MKCL

The report of the Ram Takwale Committee, appointed by the Department of Higher and Technical education of Government of Maharashtra in 1999 on 'Use of ICT in Higher and Technical Education in Maharashtra', was adopted by the Government and was implemented by the Department of Higher and Technical Education. Outcome is the **Maharashtra Knowledge Corporation Ltd (MKCL)**, which has completed a decade of successful existence and operations. MKCL was given the mandate to generate its own finances and create a new e-education paradigm and avoid digital divide in Maharashtra. For this purpose, and without any reliance on the State resources, MKCL was created in the form of a company with heavy control in share holding from the Maharashtra Government and Public Universities in Maharashtra, to work with corporate culture, earn profits and create e-education and digital link in Maharashtra. It

has already created its own business network in Maharashtra of more than 5000 access and service centers, who are mostly educational institutions or small private entrepreneurs employing more than 25,000 persons. Many of these small entrepreneurs are the share holders of the MKCL. In a way, MKCL has proved to be a new model of Corporation, which is declared by the Government of Maharashtra as a Public Authority. MKCL has spread IT literacy to more than 6 million students since 2001, and evolved e-education system that is being extensively used all over Maharashtra. MKCL network is the biggest educational /training network available and many of the states in India are adopting the model of MKCL in their states (RKCL in Rajasthan and Orissa has already sighed MOU for this).

The Department of Higher and Technical Education has already entrusted a task of creating digital university network to MKCL. The network already created in Maharashtra could be used as the beginning for creating network and e-platform for various educational services and student support. (For details of services offered, refer PART - C)

Statistical Information of Digital University Framework Created by MKCL in Maharashtra

Sr. No.	University Name	Colleges	Colleges covered	% Colleges	Students admission First year (yr 2010-11)	First yr admissions facilitated (yr 2010 -11)	eSuvidha to Students %	Overall Students facilitated till acd yr 2010 -11
1	Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur	774	566	73%	1,25,000	1,06,957	86%	1,52,971
2	Shivaji University, Kolhapur	260	242	93%	1,10,000	81,036	74%	2,55,235
3	Dr. Babasaheb Ambedkar Marathwada University, Aurangabad	357	242	68%	1,26,552	64,447	51%	3,37,387
4	North Maharashtra University, Jalgaon	230	180	78%	55,000	52,520	95%	1,76,802
5	YCMOU, Nashik	3,300*	2049*	62%	95,000	70,247	74%	6,11,284
6	Mumbai University, Mumbai	605	379	63%	2,03,099	1,54,000	76%	6,06,746
7	Solapur University, Solapur	124	110	89%	40,000	32,000	80%	1,60,514
Total		2350*	1719*	73%	754651	561207	74%	2300939

* Study centres of YCMOU

* YCMOU Study Centers are excluded from the total

This networking and digitisation already achieved could be the starting point in Maharashtra for further development in the creation of New Paradigm of education for the A3 connected society. The network covers:

- 73 % of the 2350 colleges of 6 Universities
- 62 % out of 3300 study centres of YCMOU
- 74 % of the 7.55 lakh students getting admission in 2010-11

E-Suvidha are being provided to 23 lakh students in this network. (Refer **PART – C - Enclosure 2** for the MKCL networking and e-Suvidha)

Higher Education: Stakeholders

Finally we are aiming at the creation of L3 (Life-Long-Learning) society with all having access and opportunities for learning throughout living and working period, However, we have to start from NOW with a model of education that can be scaled up to give access to ALL.

Primary Stakeholders

- Students – Learners registered in Colleges and Universities

Secondary Stakeholders: College / University Department Related Providers

- Teachers
- Education Managers
- Local L-Support Service Providers (Experts, Professionals, Practitioners etc)
- System related people (from Universities, Providers of Services – Outsourced agencies, Central organizations, etc.)

Tertiary Stakeholders

- Parents
- Local Institutions and Community
- Employers of Students /graduates
- Industry (Big, Medium, Small, Micro/Tiny)
- Social Institutions and Organizations-local, state, national and global

All these stakeholders will get involved to a lesser or greater extent in educating the students either at the University campus and colleges. Their need will be very high in cases of technological, professional and social expertise depending on the nature of courses needed by learner for their applications and in socio-economic change.

All the stakeholders are also the learners of the Learning Society; and, therefore, are students of the Higher Education system we are evolving.

Teachers and Providers of Educational Services

Teachers are all those who help learners in learning, working and using technologies in field or shop work for training and developing.

When diversification in learning courses takes place, the *mass learning system* will need expertise in different areas of learning and development. Hence for diversified and relevant education, the system will have to employ teachers and experts in different types of categories, some on contractual and work basis. Appointment and promotion policy with new approaches also will have to be adopted.

Teacher has to *play multiple roles* in teaching, learning, evaluating and guiding, other than roles which a teacher has to do as an expert and professional or academic. Teacher development programs and promotion policy have to be adopted in quite a different way. The existing policy of tenured positions with all full-time on-scale policy needs to be changed and permanence based teacher, and for educational providers and evaluators needs to be developed.

Every University / college will have *various types of teachers* employed for specific types of work, responsibility with specific outputs /outcomes. University and colleges should also set up panels of experts, teachers, professional and practitioners for various roles to support learner's learning and development.

Mass Education System that can fulfill requirements and needs of learning and development will require involvement of all the experts and providers of education and development services.

New Society by 2020/30

Information Communication Revolution is creating a new society - A3 connected society and the process of change is rapid and is expanding out to large masses as well as unreached people and places. New processes and mechanisms are being evolved, which had never existed in earlier centuries. This Post-Industrial Society now emerging is seeing a **'death' of distance** (geographical) and every one with mobile and other access devices like PDA (Personal Digital Assistance), lap/palm top, e-mail, websites, blogs, social networking, e-portfolio etc. These new mechanisms can be used in educating processes and development. .

New Processes and Mechanisms

- *IT Created Processes*: Digitization, Virtualization, Mass-personalization / Group-Customization, self-mobilisation and A3-Connectedness (A3 = Anywhere, Anytime, Anyone)
- *A3 Connected People Created Processes and Mechanisms*: Global Standards and Protocols, Open Resource (OR) Movement, OER for learning and development for socio-economic transformation, blogs/ websites for self-expressions, social / business networks, face book, twitter etc., for self-expression and real and virtual organization
- *OER based Wiki processes*: Sharable products - creation of cognitive and developmental commons / wealth / capital. Examples - Wikipedia, Wikimapia, Wiki-Educator, MIT Open Courses, etc. Self-organization, self and peer learning (Hole-in-the-wall experiment of Sugatha Mitra)

Wiki-Organizations and Empowerment of Connectedness: Wiki is a mass collaborative process promoted by web based technology mechanisms open to all; and with clear assurance that the resources so created by the collaboration processes shall belong to public. People and experts voluntarily contribute to it and see that the quality of resource is maintained and enhanced. Nearly 3.5 lac people work for Wikipedia and spend 100 million hours of work every year for the social cause. This is the finest example of social creativity and generosity pooled together voluntarily and globally. Organization of agitation for democracy in Egypt was triggered by the Facebook's social networking technology and its social connectivity enabled youngsters to organize their views on common goals and action which resulted in the demonstration known to all.

A3 Connectedness creates great empowerment and process of developing commons for learning and development. This could be a great empowerment for socio-economic transformation and can be used to fulfil the dreams of the great social reformists of Maharashtra who have worked towards the upliftment of common people – the movement of *sarvodaya* and *antyodaya,* right from the time of the British rule in India.

Information Communication Infrastructure in India

Under the guidance of Dr Sam Petroda, Information Communication Infrastructure is being created in India. The corporates involved in IT devices marketing are also creating their own business marketing networks. Many programs like UID - Unique Identity Number to every Indian, networks of airlines, railways and various transport and courier services, banking networks are some examples of the great networking program undertaken by various economic and development sectors of India.

Education system also needs its own infrastructure to produce and disseminate educational product and services. Since education is to be linked with global learning, developing and value/wealth creation opportunities, it is essential to use the globalization with the following approaches and mechanism.

- **Open Resources** for learning and developing should be made accessible to ALL. Open access to ALL will reduce global- local disparities and offer opportunities for creativity and innovations.

- **Global Quality in cost and competitiveness** of products and services will emerge; survival will be dependent on *quality and excellence adopted and developed by individuals, groups, institutions and society.*
- **Future A3 Connected Society** will create multiple choices and opportunities for learning and development. This will enable the society to change towards equality, liberty and autonomy – individually, group-wise and institutionally.

Many newer technologies are getting created in various fields of communication and development. Use of these latest technologies is therefore essential for radically changing education and developing processes.

Linkage of Education with Society

In the A3 connected society, learning, working and developing is possible from anywhere anytime. This needs creation of Educational Information Infrastructure using ICT extensively. It also gives opportunity to create omnipresence of learning and developmental resources, both of static and dynamic nature for learning-developing-creating wealth. In this case, goals and objectives of learning and development, processes and mechanisms of learning and developing become entirely different.

We consider the general approaches essential for linking education and development - self and social.

Approaches in Educating and Socially Developing

1. Create A3 connectedness with educational infrastructure: We are creating Learning Ecosystem for education in Maharashtra.
2. Promote **group cooperative and service learning and developing**. This should have mass collaborative working approaches to create common wealth like Wikipedia, openly available for all.
3. ***Develop Value Based Education***: To ensure working socially together, it is essential to follow the ***Founding Principles and Values*** essential for linking education with social development (Preamble of the Indian Constitution includes Values like Liberty, Equality, Fraternity and Justice and social organization principles of Democracy, Secularism and Socialism (Autonomy with Self-Governance of and by the learners / students in their learning and development).
4. ***Promote L3 and Developing*: Adopt processes of learning and educating** from Agrarian and Industrial processes / practices that are independent of past technologies and models, and create new models and designs (paradigm) useful for post-industrial technology and A3-connected society. Education is to be universal and founded on **universal human values for** living **and working in knowledge society**.
5. ***Promote Social Creativity and Generosity***: Create **Wiki processes** and **learning and developmental commons** by creating mass-collaborative processes and social networking that promotes Private-Public-Community Partnerships organized through Consortia.

All these approaches are being inducted in the proposed Education System.

Radically Reconstructed Education System

When society is changing so radically and creating entirely new processes, mechanisms and social and technology networking, it is imperative to use all of them in education for learning, developing, creating and transforming processes.

Radically Reconstructed New Education for New Society/Post Modern Society should be based on:

1. ***Connected Communities*** organized through learning and developing learners, L-groups, pariwar (group of groups) and communities.
2. ***Open Resources*** created by movement using Wiki Processes (Mass Collaboration)
3. ***Enabling Learner in L3 and developing (D) and transforming*** through (L&D Paths):
   - Self-development
   - Social development
   - Personality framework development
   - Personal /social value addition and wealth creation (Creating Commons)
4. Teachers and students to play multiple roles (Role based education)
5. Organize Social Networks for L&D by empowering them through knowledge and developmental capacities and capabilities. (Cooperative Learning)
6. Create Global + Local paradigm of education: Developmental designs and models with FUTURE NOW Approach.
7. Create Social Developmental Business Model based on universal human values and ethical practices as an alternative for the financial business model. The Social Development Business model should lead to the Economy of Permanence that includes sustainability.

Society Involvement with their Unique Roles and 'Price' Paid

Individual and the Society ***has to Pay the Price*** to create National or Social Education system which they can adopt. In this context of mass-education following points are pertinent.

All education is not good: Education is either good or bad or indifferent; and any education system adopted socially and nationally creates *an eco-system that promotes learning of anyone, anywhere, anytime. Education is the mother of all development processes. It may generate good value system and social wealth or bad system of values, and promote selfish and exploitative development.*

Learning is natural; self-organization is equally natural; regimentation is unnatural. For any unnatural / forced system, everyone pays the price and reaps good or bad results.

Modern Education System: Education should be based on agricultural learning processes - personalized development system. Use of industrial processes is essential for globalization, sharing and caring approaches evolved by global community for modernity (Culture based approaches), and now for moving to post-modernity (Creativity & innovation based culture of learning and developing)

Social Development Centric Education - Creating Wiki Resources and Organizations: Each one is a change maker when social education is evolved and used for the entire society. Each one is endowed with 'something' surplus of what s/he can give to the society in creating Common Wealth to be shared openly by all. This process involves sharing our excess and contributing to the Social Wealth (due to value of trusteeship) and enriching society and people. One of the basic movements is to create Open Resources for educating and developing through wiki processes. Twenty first century society can thus be created with cooperative learning and developing and social generosity by all.

Education system particularly in unequal and unjust society can use this concept of Creating Commons for learning and developing of all organized in groups, pariwars and communities and creating a system that promotes **All for One; One for ALL.** Global Learning and Development resources will be for ALL and all will care of one, once they come to know of the special needs of one. Each one of us will contribute to all such common resources. Together we will ensure safety and success of each one and his/her locality. Globalised humane society should create directions of development with creativity that enriches individuals, creates leaders out of them for creating equal and just society.

The next two chapters are devoted to create the new structures and functions that will enable to have New Age Education system for A3 Connected society.

No single university can alone provide all the learning and developmental needs of a learner,

together we can do it!

CHAPTER 5 - Higher Education: Central Structure for New Paradigm

Introduction

A3 Connected society is creating a new world of networked people with a challenge to create a new society with knowledge based economy. The new society also offers globally linked opportunities of livelihood and wealth creation. It is obvious that education system promoting learning and development will be the key instrument for such a revolutionary social transformation.

No single university can alone provide all the learning and developmental needs of a learner who wants to find out his/her life-long learning and development paths. However, t*ogether they can do it* by organizing centrally and cooperatively. ICT is changing fast and IT dependent services will also change equally fast. What can be the form and functions of such a system of education that will enable the learners to adopt/adapt changes and create their own/group/social /national futures?

A3 connectedness requires management tools and techniques that will be different in such a society. Centralized top-down hierarchical management may need radical changes. The networked society is promoting individual identity as well as group / community participatory management in an autonomous and self-governed way for social and work related goals.

University Education Functions of Higher Education

Higher Education is organized through Universities and their Affiliated Colleges. Universities are suggested to carry out the following functions in A3 Connected society:

1. Traditional Functions:
    - Creation of Knowledge
    - Dissemination of Knowledge
    - Preservation of Knowledge
2. Knowledge based Networked Functions:
    - Social Development: Application of Knowledge in creating wealth and prosperity for the individual and society
    - Autonomous Self-Governance: Self Organization, e-Governance and Management of Learning, Learners and Development (L&D)

Linking education /learning with sustainable development changes the whole picture. We can bring in constructivist learning approach, which is being introduced right from the primary school stage, with work-based learning in which one can learn FOR development and learn FROM development. This is the *samavaya* approach of the Nai Talim, which can be employed in this developmental education. Many of the activities could be carried out as wiki processes and organizations; and the outcomes will be the learning and developmental commons to be shared with all students and teachers.

Problems in Number Based Approaches

Creating More Universities

Sub-dividing Parent University into one or more universities is going on since the division of Mumbai University for western India into its present Mumbai University status. The times have changed and the new age is emerging and creating knowledge society with life-long-learning (L3).

Main problems are as follows:

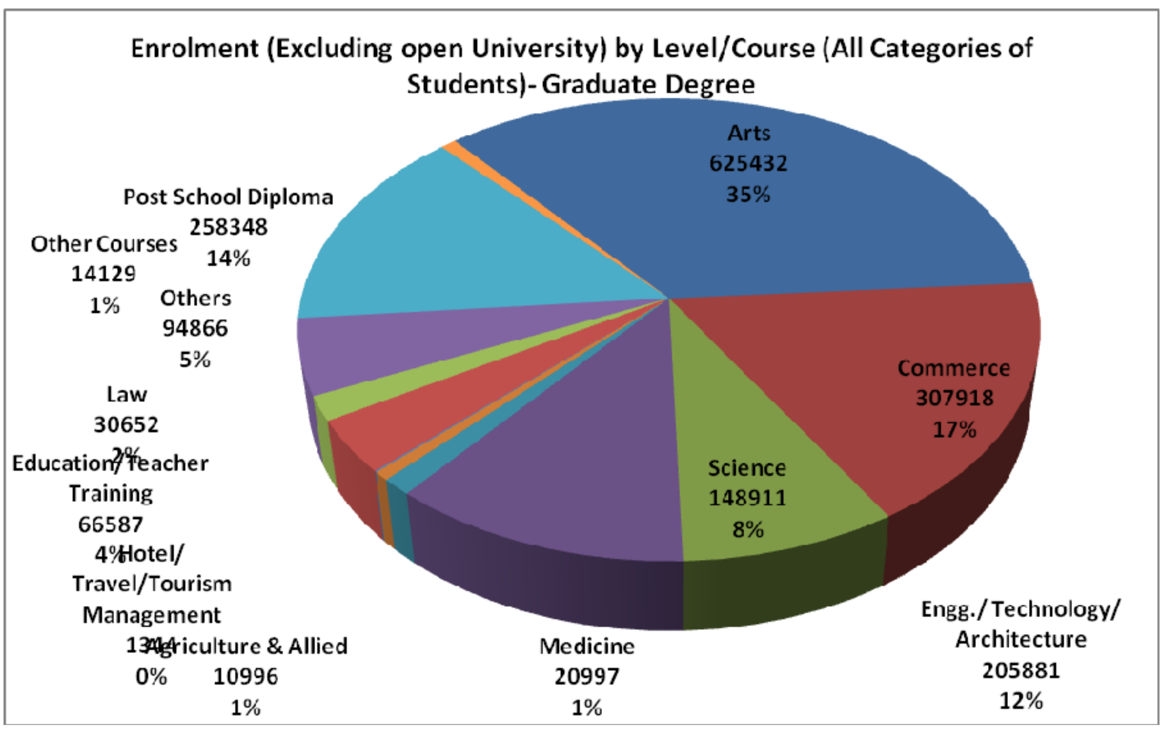
1. Proposal is to create one university for every 150 colleges (nearly 75-150 K students). This will require at least 8 new universities to be created from the existing three big universities of Mumbai, Nagpur and Pune. Increase in colleges in the existing 10 affiliating universities projected by 2015 will need 18 more universities. This brings us to nearly one university per district. This number may further grow. This is not the approach for higher education for the learning and developing society.
2. For each new university, large resources are required to be spent in centralized administrative and educational service facilities. This will be accompanied by cost needed for all the university bodies, officers and staff to be supported by the state government through the State grants.
3. Cost of each university will be approximately Rs. 150 Cr / university; total Rs 3900 Cr in 5 years. (Eight more universities now and 18 more by 2015). Government will not be able to find all the resources; hence different approaches will have to be found out. Otherwise each new university will suffer from paucity of funds and the quality of education imparted in these universities also will be affected.
4. Quality and standards will have to be ensured at all the new university campuses. Existing ways will not enable uniformly high standards and quality of teaching, learning and research.
5. New university degree may not be recognized by the public for admission in higher institutions, and industry for its employment. Students and people under the jurisdiction of the new university may suffer.
6. Use of existing degrees in employment, particularly of general degrees (B. A, B. Com, B. Sc etc) is already very limited. The program needs to be linked with restructuring of a first degree program to enable to link academic work with practical applications. Universities in isolation will not be able to do it.

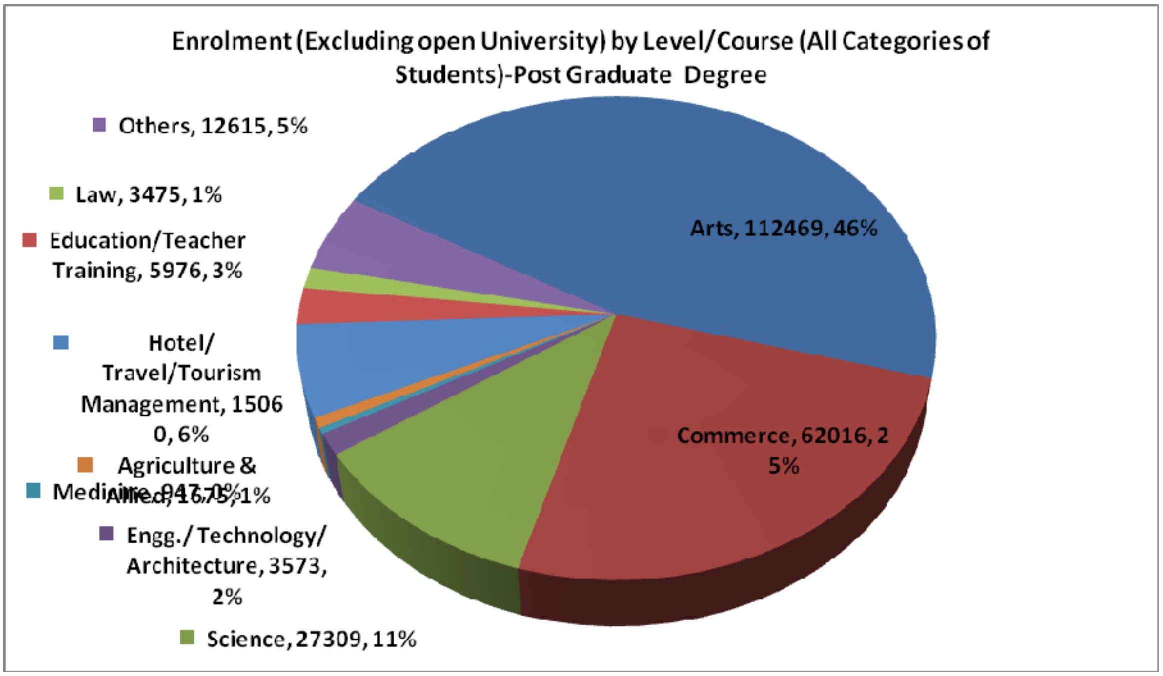
Total statistics of numbers of institutions, teachers, students in Maharashtra

	Central University	State University	Private University	Deemed University	Institutions Established under State legislature Act	Institutionof National Importance	Total
Number of University & University Level Institutions	1	19	0	20	0	2	42

	Arts, Science & Commerce	Engg./ Technology/ Architecture	Medical (Allopathy/ Dentistry)	Education/ Teacher Training	Others	Total Colleges	Polytechnics
Number of Colleges & Polytechnics	2182	212	117	419	328	3258	178

	All Categories		
	Boys	Girls	Total
Total Enrolment in Higher Education	1897109	1185531	**3082640**





Enrolment (Excluding Open University) by Level/Course (All Categories of Students) at Ph.D/M.Phill is 3093

	All Categories		
	Boys	**Girls**	**Total**
Gross Enrolment Ratio in Higher Education (18-23 Yr)	27.87	21.03	**24.78**

The figure of GER may be misleading, since the total number considered includes all the students. It is often stated to be 13.

	Number of Teachers	Enrolment			Pupil Teacher Ratio
		Boys	**Girs**	**Total**	
Pupil Teacher Ratio in Higher Education	76602	1006803	754989	1761792	**23**
*Excluding enrolment in Open University & Polytechnics					

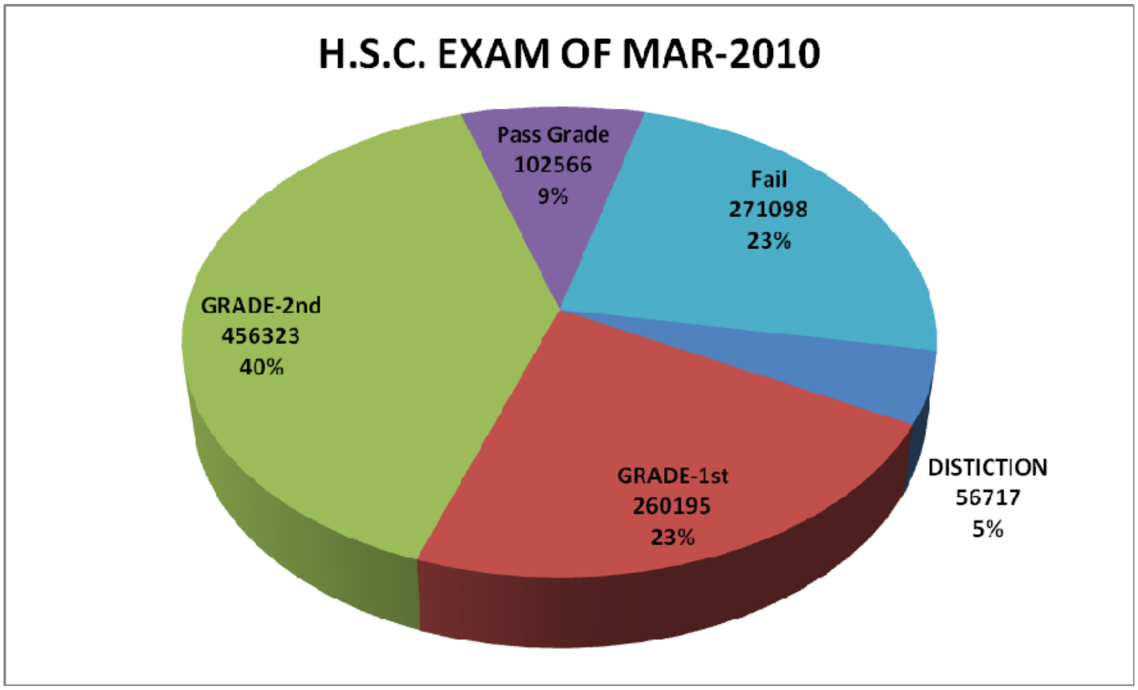
Student Enrolment in Higher Education

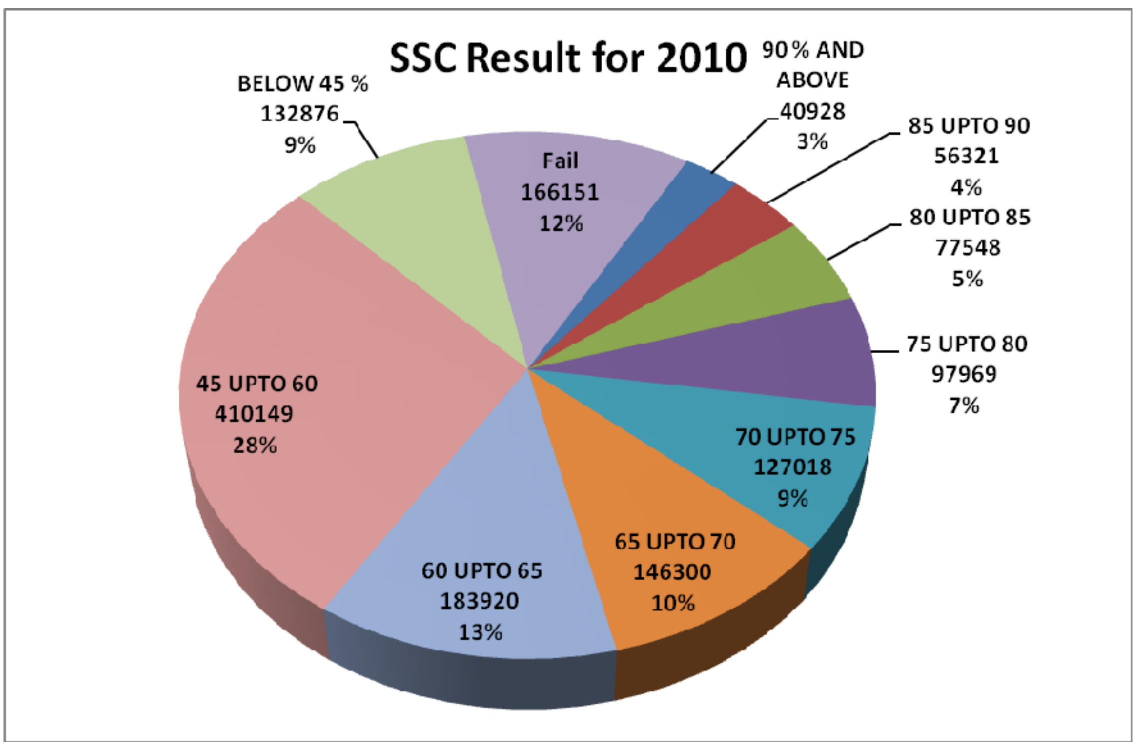
Enrolment (Excluding open University) by Level/Course (All Categories of Students)	SSC	HSC	Graduate Degree	Post Graduate Degree	Ph.D/ M.Phill
Arts	1,443,201	1,158,256	625,432	112,469	3,093
Commerce			307,918	62,016	
Science			148,911	27,309	
Engg./ Technology/ Architecture			205,881	3,573	
Medicine			20,997	947	
Agriculture & Allied			10,996	1,675	
Management/ Hotel/ Travel/Tourism Management			1,344	15,060	
Education/Teacher Training			66,587	5,976	
Law			30,652	3,475	
Others			80,737	12,615	
Post School Diploma			258,348		
Other Courses			14,129		
Total	**1,443,201**	**1,158,256**	**1,771,932**	**245,115**	**3,093**

Statistics of Higher & technical Education-2007-08 GOI, Ministry of Human Resource Development Bureau of Planning

SSC & HSC data from Maharashtra State Board of Higher Secondary Education- 2010

** All above data from Statistics of Higher & technical Education-2007-08 GOI, Ministry of Human Resource Development Bureau of Planning.*





** MAHARASHTRA STATE BOARD OF SECONDARY & HIGHER SECONDARY EDUCATION, PUNE – 5*
http://mahresult.nic.in/

Suggested Policy Options

Affiliating system established in India was a copy of the London University model of 1850, when London University was just an examining body. The approach of examining body based system has now changed and universities are now teaching-learning-research centers and are contributing to the knowledge and socio-economic development of the nation. The higher education and research was promoted in Maharashtra only by promoting Post Graduate Campuses, which gave the University their research credibility and function of creation of knowledge. Some universities converted that quality into a brand. However, large number of students and teachers are in the affiliating colleges, where teaching dominates the most. Everywhere in the world big campuses with large faculties and students have acquired reputation as Research and Development centers. They have become the drivers of change for the modern and post modern societies.

It is, therefore, proposed that *large campuses, one at each district, be established with 500-1000 teachers and 5-10 thousand students studying at UG, PG and Research & Development levels*. Networking of all these centers will offer additional benefit of sharing resources and raising quality of the entire system.

We propose a model of district campuses of the existing affiliating universities that will take care of the ever increasing number of students and colleges; a system that will take care of large numbers that are expected to need life-long learning in Knowledge Society.

Developing Streams and Stages

For L3 and Developmental Upgrade Path

We will be developing continuum of learning courses that will allow the learner to go horizontally (variety of courses in application and professional areas) and vertically (at stages of higher levels of studies and development).

The degree programs with general degree (3 yr), professional degree (4 yrs) at the Under Graduate level and Master's degree (2 yr), M Phil (1-1.5 yrs) and Ph D (3-4 yrs) programs at the Post Graduate levels can be put for convenience into three stages (Vertical) and four streams (Horizontal).

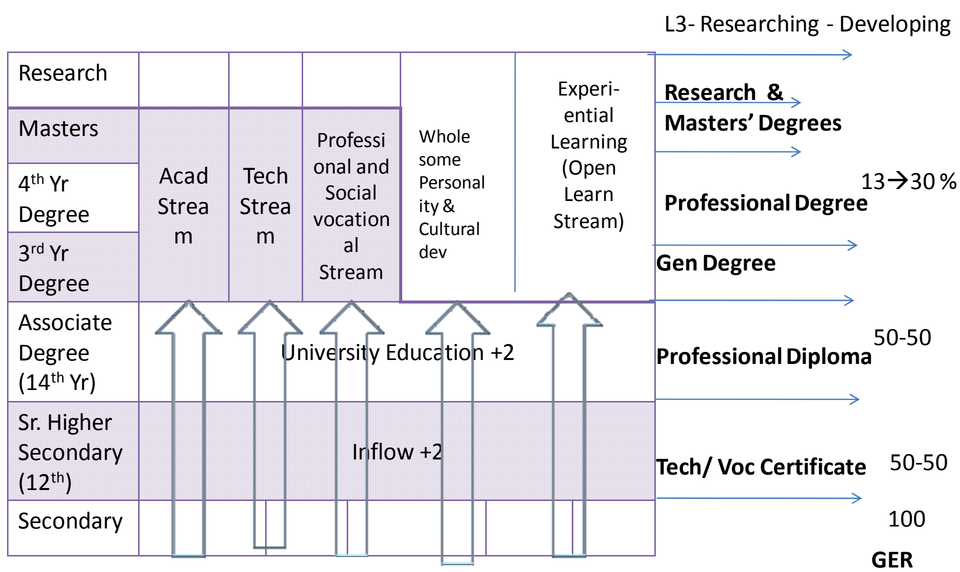
Total system of courses should be modular, having courses /modules in every area of development and with credit points that could be accumulated by the learner for any further degree. Once a student of higher education system, s/he will always remain a student for L3 and developing.

Stages L3	**Programs – Courses** **University-College system**	**Open Learn** (OL) **Education System**
Higher Stage Post Graduate 2 and more years →L3	Four Streams for HE Students Courses in Academic Stream	OL Channel for ALL
Middle Stage Under Graduate + 1 or 2 yrs → degree & L3	Technology Stream	All regular courses + Experiential Learning and Developing Courses
Foundational Stage Profession /Vocational 2 yrs →World of working and L3	Professional including Social Vocational Stream Personality and Cultural Development Stream	

This streaming and learner movement from stream to streams is indicated in the diagram given below.

It is expected that every regular student will offer some courses through open learn courses and the artificial systemic differences made so far will vanish. Further, far more students will be learning through OL system - an integral part of the New Education system.

L3 Society:
Upgrade Paths in Developmental Education



University will have to establish its functions and create educational environment that promotes quality and excellence in the learning, teaching and research processes at PG and UG levels. Number of students at the two levels, higher at the UG (nearly 88%) level and lower at PG studies and research (12%) level, will have different use of learning in their roles in the career of students. Existing under graduate education does not enable to find career paths in the world of work. The credits of learning from skill and developmental education can be a part of the curriculum either of the academic or professional courses. These credits can be carried by students to any relevant degree program permitted by the University. After two years study in skill education with certificate and diploma degrees, student will try to make the learning relevant to life and work situations. This was also the First Degree Restructuring program of Pune University in 1981, and the Department of Education, Government of Maharashtra had shown keen interest in spreading the program in all the colleges in Maharashtra.

The ICT induced globalization of education and the emerging connectedness has already created new scenario and new society is emerging – the New Age society. Our task is to develop Innovation-Eco-System that will support learning and developing.

Proposed New Education based on Work-centric Learning and Development

As proposed in Chapter 3, the work-centric education is based on three basic approaches:

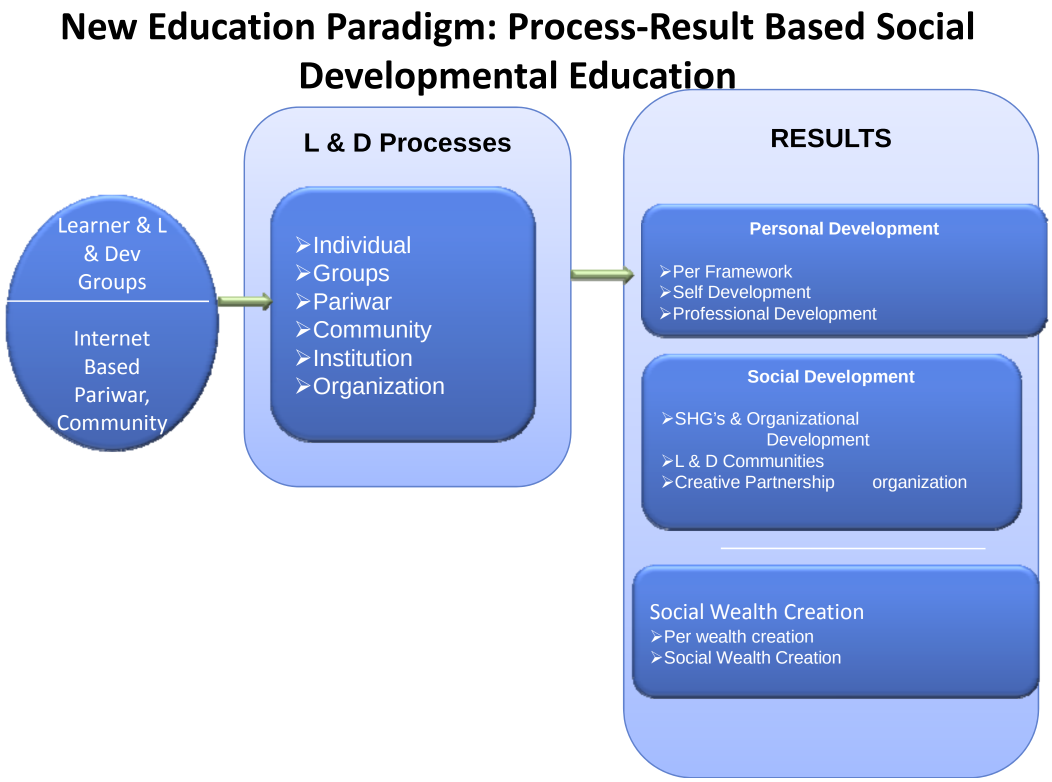
1. **Doing activities / work wholesome** by increasing its social usefulness and social/ industrial productive nature by using learning activities, assignments and projects related to the program and courses of learning.
2. **Linking education with change processes** of learning into development, development into value creation and use value for transformation.
3. **Playing roles in work and change processes** and aim at futures creation for self, group and community.

As in the Constructivist Role Based Learning Model, the role based courses are designed to have learning activities aimed at:

1. *Capacity Building through learning activities* to obtain essential **knowledge** and **skills** of cognitive and tools/technology based to solve realistic issues and problems faced in life and work – preparing for assignments.
2. *Capability Building through assignments* that needs to solve situated or/and contextualized issues and problems from real life and work, present or future having some social usefulness and productivity of various nature. This enables to assess **ability to apply and get results**, **attitude and values** while working individually and in a group and **social behavior** of individual /group.
3. *Co-creativity Building through **group/pariwar working and co-operative learning** and **mass-collaborative working*** on some socio-economic and cultural development.

Work and change performance is measured in terms of knowledge and skill acquisition (traditional approach), ability to apply and solve real life problems, social behaviour of individual and group, and personal and group attitude /values and practices - the personal and group framework.

New Education will need new mechanisms of the A3 Connected society. Creating e-Platform and Innovation-Eco-System is therefore primary requirement for the New Education; and the goal is to link life-long working, learning and changing /developing with processes of living, prospering, progressing and culturally transforming.



SHG: Self Help Group

E/L & D: Education/Learning and Development

Developing Innovation Eco-System

For Learning and Developing

New Education should use the new processes and mechanisms which are technology rich and enable many functions to be carried out. This is a process of working /activity with some inputs, throughputs and outputs/outcomes. The roles can therefore be classified into two broad categories as providers and consumers. Providers will be involved in creating products (intellectual or tangible) in the form of artefacts and services and offering to customers. They are to be marketed in open local and global markets to create value in the life of providers and customers. The customers are also required to be providers to create livelihood and wealth of one or other kind. Hence every one is a producer + consumer (Prosumer- in Alvin Toffler's *Third Wave*), and should be learning to do many roles to play successfully in life and work. Many of the functions that are now done by the traditional system of education could now be outsourced and in-sourced; and open, transparent and accountable system could be evolved by using ICT.

Levels of Learning and Development

Learning and Development paths to be followed by the learners in education and development can be *activity based* in the primary processes of input-process-output.

Learning ←→ **Development** ←→ **Value Creation** ←→ ←→ **Transformation**

At the higher stage of *learning and development,* the processes based outcomes are:

Developmental Learning ←→ ←→ **Wealth/ Value Creating Development** **Social Transformative Wealth / Capital**

At still higher stage *Outcomes and Impacts* are the ***value enriched systems and paradigms*** of Social Developmental Education Systems that generate social wealth and value based social transformation leading to higher levels of culture and creativity. **Through ages, the humanity is moving towards higher and wider levels of progress and prosperity; physical prosperity, knowledge prosperity and now cultural and innovation prosperity.**

Purpose of the Innovation Eco-System

As a part of the post-industrial society with Global-Local approach to learning and development, we create the centralized structures that would be catering to the needs and requirements of a learner and offer all the learning support services of technological, administrative, examination and evaluation nature. We use e-platform and networking technologies for all these services to be offered personally on the e-Platform.

Tasks of universities and colleges would also be simplified by using digitization of education functions and using various tools and techniques, such as LMS, Open Resources, e-Portfolio, online formative and summative evaluation and immediate certification etc. Learners and teachers can concentrate on achieving excellence in their course and program related performance and the learning and development; and perform their functions far more efficiently and effectively.

We propose the top or Central structure to support this new paradigm of education for Maharashtra networked society. The approach can be extended to any region in India and outside.

Higher Education: State Level Support Structure

Innovation Eco-System with e-Platform for all learners

The Higher Education in Maharashtra functions through formal and non-formal institutions, consisting of traditional universities, colleges, Open University and distance education institutions, as well as informal ways of learning outside the university system. The objectives of the Commission proposed are to integrate these streams of educating and link them with socio-economic development of Maharashtra.

Top / Central Structure

It consists of Maharashtra State Commission for Higher Education & Development (MAHED / The Commission)

The proposed Commission for higher education in Maharashtra will have functions of:

1. **Policy Making** through model statutes under the Maharashtra Universities Act (MU Act 2011)
2. **Resources Creation and Channelization** to all universities, colleges and teachers and students
3. **Support Services to learning and developing** for all techno-educational activities in teaching, learning and developing to institutions (universities and colleges) and learners (teachers and students)

The Commission is empowered by the MU Act 2011 and will have THREE main bodies:

1. Apex Advisory cum Supervisory Council (AASC)
2. Board of Governors of the Maharashtra State Commission for Higher Education and Development (MAHED)
3. Academic and Development Council (ADC)

Central Support Structure



MAHED will have, its Commission Secretariat, with following five divisions:

1. Higher Education and Development (Networking and Services (MS-EDUNET)
2. Division on Under Graduate Evaluation (UGE Division)
3. Quality and Excellence Assurance, and Affiliation Council (QE Council)
4. Open Resources and Empowerment Services (ORE Services)
5. Division on Vocational Studies and Distributed Centers (VS Division)

By considering the success of the MKCL, established by Department of H&TE of the Government of Maharashtra, we propose that:

- MS-EDUNET be established as a *Social Developmental Education Corporation*. This is necessitated by the linkage of education with social development and use of cooperative learning in which wealth co-creation will be an important function of the New Education. Further, MS-EDUNET is a networking and other service providing agency.
- UGE Division, QE Council and VS Division may be converted by MAHED into autonomous bodies. These will offer evaluation, quality and excellence assurance and vocational skill education services to all colleges, universities on e-Platform (to be established by MAHED for offering customised service to the institutions). In the process, the divisions and councils offer services by ensuring academic and learning autonomy of the universities and colleges.
- Another major function in affiliating university system is granting affiliation to all colleges, autonomous or otherwise. This function is to be outsourced to the QE Council, which carries it out by following university affiliating rules and regulations. This is to promote outsourcing the services related to evaluation, affiliation and quality assurance to the three agencies working under the Commission.
- The Division of ORE Services under MAHED will support Open Learn channel by creating Open Resources and supporting empowering processes of developmental learning and wealth creating learning. This becomes the integrative work of coordinating all the OL Cells or Study Centers that will be existing in all colleges and universities. The Open University and

Distance Education Institutes (DEIs) of dual mode universities will have the responsibility to offer social development centric courses as well as offering Open Learn Stream for all the Maharashtra on the e-Platform / MS-EDUNET. Higher Education in Maharashtra should contribute to the prosperity, and cultural and creativity enhancement of post-industrial society of the State. A new role for Open Universities and DE Institutions in the A3 Connected society is to be ensured. This is a role in the new age society in which the distinction between formal, non-formal and informal learning vanishes and all come on the same e-Platform with choice based courses to students, selected by them, to identify themselves and find their life-long learning and development paths to achieve their own personal and socio-economic goals. Open and Distance Education Institutions should find their focus of their program offerings with development centric and livelihood and wealth creating support system.

- Outsourcing the Under Graduate Evaluation pertaining to the capacity building, a part of learning related to knowledge and skill development, can essentially be done by using the Question Banking and setting personalised question papers of equivalent nature. The same is not true when a situational or highly contextualised assignment is to be evaluated in which not only application but also situational development with individual attitude towards work or group working is a part of assignment working. It is like evaluating project work and has to be done by the teachers on an individual basis. Mass-personalisation and evaluation technologies already available and being developed by using various media is creating newer ways of evaluations.

  Our proposal is that the traditional part of capacity evaluation be done through outsourcing and assignments and projects be evaluated by the teachers and their institutions. We feel that such a coordinated policy and technology use aspects be considered by MAHED and its UGE Division. We strongly propose establishment of four or five Regional Evaluation boards with some autonomous nature to offer examination services of formative and summative nature in a customised way provided directly by the Regional Boards and /or through their Service Agencies. The services are to be provided to all university campuses, autonomous colleges, Open Learn students in a personalised and customised way. All these activities and interactivities be linked with the personal portfolio of each student as well as exam records of colleges and universities. This will ensure standardisation in quality of examinations and will maintain the quality across Maharashtra. The OER for evaluation is to be created either centrally or locally with the participation of all the teachers teaching the courses; and validated for their quality by some selected experts from universities and colleges. OER through Question Banking could be used by all the students, colleges and universities for formative evaluation. This approach to the formation of Regional Boards would help in raising the quality and standard of education in all the educational institutions, and would avoid influencing the examination processes followed by the existing universities. Autonomous university campuses and colleges are to decide their proportion of student's course work in terms of the student development based on capacity, capability and co-creativity building and give appropriate weightages to each component of work.

- The Vocational Studies Division should essentially create facilities for training and testing skill development in partnership with Private and Public Industries /institutions and offer incubation / innovation / production (pilot) centers either in the existing colleges of general and professional nature, in associate professional colleges offering short duration (one and two year duration) as well as modular courses carrying vocational/ applied credits. This is essentially a value addition and creation process and forms a very important component for the development centric course aimed at value creation. Such centers should be used for students of colleges and campuses on time sharing basis.

Maharashtra State Commission for Higher Education and Development (MAHED / the Commission)

Besides ensuring smooth and coordinated functioning of the divisions and autonomous units under it, the Commission shall:

1. Promote culture of learning through policies and programmes for societal and industrial linkages to achieve social and national development.
2. Promote Science and Technology based social and economic development of Maharashtra.
3. Promote partnerships between stakeholders to support learning and developing (Public-Private Partnership (PP-P) and PP and Community Partnerships (PPC-P) to ensure participatory social development.
4. Create “Level Playing Field” for all students through e-Platform and offer its services and facilitations that gives access and opportunities for innovation and creativity in making living; work towards raising quality and excellence in life and eradicating poverty of individual and group working together, besides learning various courses and getting degrees/diploma.
5. Manage centralized and Open Resources for the State and offer system of courses in partnership with traditional, dual mode and non-formal Open and Distance Education Mode; ensure the quality of education of Open Learn courses; promote the use of courses by regular students as well as open learn students to ensure the relevance and utilisation of courses in their career and livelihood creation and their utilization for socio-economic and cultural development of the State.
6. Promote Wiki processes and creation and protection of common Learning and Developmental Capital / Wealth (Social Commons) as well as Wiki organisations for these tasks of Social Wealth creation by promoting participation of students and teachers in their creation, preservation and utilisation.
7. Promote social developmental companies /corporations through associations of Universities and private industries to create medium/ small / tiny enterprises to create personal, group and social wealth that will help eradicate poverty from Maharashtra.
8. Ensure autonomy of universities and colleges, learning and development of learner; and promote and channelize this freedom to create New Society without poverty and to enable working for excellence in learning and developing in the A3 connected world.

Existing models of private business / companies /corporations are not the right models for promoting equal and just society. New models of educational enterprise for converting development into social and transformative wealth are essential.

Main functions and Structures of MAHED are directed towards creating:

- *Educational and developmental infrastructure* to offer information and physical facilitations to learners and learning all over Maharashtra.
- *Support Administrative and Academic Services* to all public universities to raise quality and excellence in educational performance of students, teachers, institutions and society.
- *Open Education Resource creation movement* for its use for development (Wiki processes) and social participation in co-creating Learning and Developmental Commons for all to ensure formation of equal and just society.

The Commission shall work with the Board of Directors headed by the Chairman, an honorary position, and by President and CEO, in charge of all operations. The Board of Directors will be a small body consisting of not more than 9-11 persons, mostly with full employment of MAHED and will carry out all the policies and programs proposed by the top bodies (AASC and ADC) and to fulfil the goals of the University Act.

The composition of the **Board of Directors** of MAHED shall be as follows:

1. Chairman: Eminent educationist/professional with experiences in his domain expertise at national and global level and having achieved proven outcomes in his profession nominated by the Governor.
2. President and CEO, MAHED
3. Director (Planning & Co-ordination)
4. Director (Finances & Resources Generation)
5. Director (Coordination of Evaluation & Examination Services)
6. Director (Quality & Excellence Assurances and Affiliation)
7. Director (Open Education and Empowerment Services)
8. Director (Networking & Support Services)
9. Director (Vocational Education and Employment)
10. MAHED Secretary who would work as Member Secretary of the Board of Directors

Apex Advisory cum Supervisory Council (AASC / the Council)

The function of the AASC is to ensure partnerships of various developmental sectors (State, Industry, Cooperation, Economy, Voluntary organisations and Social institutions) with educational institutions.

The **Council** is to:

1. **Identify the programs** of development, the agencies, institutions and organisations involved and the nature of partnerships between higher educational system and the developmental agencies.
2. **Identify the resources and sharing of work** and services that are essential for inputs and outputs / outcomes of the development programs.

3. **Enable and ensure separation** (autonomy) of ‘learning’ and ‘development’ by students and educational institutions from political, bureaucratic and economic pressures on the system of **education and development**.
4. **Annually review the progress and performance** of the development achieved and advise on the ways of reforms and change essential.

The Council will have participation of all sectors involved in development and AASC can help the Commission and Universities to carry out their learning and social development functions. The implementation of their policies may have subordinate bodies formed from development partners at regional and district levels and their operations may extend up to Block units.

Composition of the AASC should be such that it is chaired by the Governor and Chancellor of the Public Universities, and should have members from the State Government, industry, professional and social bodies, education and IT Enabled service experts and socially committed and successful industry/social development leaders in India and from abroad.

Academic and Development Council (ADC)

The ADC is a body that consists of academia as well as the development experts and successful professionals and industrialist in the socio-economic development of society. The body will consist of about 30-35 persons consisting of:

1. Academic group: VCs, and some more from professionals, directors, administrators/managers etc.
2. Expert from social development / economic / science-technological development areas
3. Research / Learning community representative
4. Teacher representatives
5. MAHED Nominees

ADC will be chaired by the Chairman / President and CEO of the Commission. It is a body that links the goals and objects of the academic and social development programs in the Universities of Maharashtra. It advises the Commission on the policies of the autonomy of the universities /colleges, of learners and their developing. The ADC will propose model rules and protocols to the universities for maintaining high quality and excellence in evaluation, administration, affiliating colleges, autonomous college governance and digitisation of services and facilities. The ADC will also guide MAHED for creation and protection of social wealth /learning commons created by academia and society, and its growth and use for the quality education access for all. The object of the ADC is to help all the universities, colleges and students through norms and advisory policies, to create knowledge society and economy in Maharashtra with the goals of inclusion, expansion, creation and enhancement of social commons.

The details of the functions, duties, composition and powers of ADC are as per the Maharashtra Higher Education Act 2011 to be proposed by the Comm - 2.

Generation of Personal and Social Wealth: Linkage of Education with Livelihood

Social Commons and its Support for the Social Developmental Learning

The New Paradigm of Education proposes to make work as a part of learning and development process. We use the concept of '***samavaya'*** or '***bootstrapping'*** in which education is considered as a dual process of '*learning **for** development*' and '*learning **from** development*' and uses the iterative process mentioned in the earlier chapter-3:

Education/Learning (knowledge) + Work Activity + Appropriate Technology ←→ **Socially useful and wealth creating activity**

By making a learning activity or work a holistic and socially relevant, progressive and transformative (creating cooperation for social / community development), one obtains an experience of great learning and social development. In such a process many learning processes are included; some are production based learning, service based learning, wealth creation based learning for wealth for self as well as ones group and society. Simultaneously in working individually and in a group many social values are nurtured, which are socially useful and enriching. To make work holistic, socially and economically productive and transformative is a great challenge for students and teachers. In the processes of doing such type of activities, a student can find his/her ways of linking capacity and capability to livelihood as well as to the mission for life.

One important outcome of this linkage of learning with development is the opportunity student gets to make education self-supportive, at least partly if not fully. This also leads to partial self-sufficiency of the universities and, with additional state and social/ industrial resources and funding; universities can be made socially dependent and financially self-supporting institution within a period of a decade or two.

Outcomes and Impact of the Three Central Level Bodies

Development Programs for Cooperative/Collaborative Working

Set of development programs in various sectors of development that can be carried out by the students for their developmental learning in Maharashtra in cooperation with:

- State Departments of the Government of Maharashtra
- Industries at local and state/national levels and their associations
- Professional bodies in various sectors of development (Banking, marketing, auditing, administrative and managerial, etc)
- Social Voluntary Organisations involved in social development for various sections of the society
- Organisations of unorganised sectors involved in tiny enterprises

Learning and Development Wealth Co-created

By Students and Teachers Communities as well as by society /learning communities to achieve Progress and Prosperity of Maharashtra

Learning and development carried out by students, teachers and institutions, individually, in groups and /or through Wiki processes of students and institutions (colleges, universities, departments, etc) could be made an integral part of their studies through assignments and projects. The outcome should contribute to knowledge as well as the social and physical/financial wealth created by these educational programs to the development of the State of Maharashtra.

Ensuring relationship between Education and National Development was the goal of the Education Commission Report (1966). The New Education System gives an approach and policies for action plan to achieve that goal.

Divisions under MAHED

Higher Education and Development Networking and Services (MS-EDUNET)

The goal of this **division** is to create all the digital networking, e-Platform with access and user services that will offer academic and administrative support services to universities, colleges, teachers, students and other stakeholders involved in teaching and learning.

The Division will consist of the following departments:

1. **Networking**: Linking all students, teachers, Institutes and stakeholders and providing all the essential and upgraded technologies
2. **Providing Digitization and Administrative Services**: Services such as digitization, learning management services (LMS), formative evaluation, outsourcing of various administrative and financial functions are to be provided to all colleges, departments and universities.
3. **Management of centralized resources** and ensuring access with equity and justice
4. **Management of consortia** / partnerships for socio-economic and technology development of Maharashtra State
5. **Credit Banking**: Management of credit accounts of students, and services for personal portfolio for university and colleges and other reference for the employers.
6. **Promotion of domain related and systemic research**: For development of social transformation and wealth generation
7. **Redressal** of grievances in education, in partnerships and in education

The division will use outsourcing and in-sourcing processes done through the networked systems to support higher education in the State. In-sourcing process will be implemented by the Open University by using the expertise from all over Maharashtra to create Self-Instructional Materials (SIMs) and their deployment to the students throughout Maharashtra. Course Team approach will be used to achieve this. The only difference now is that the distinction between open and formal course and programs of education will be eliminated in New Education, since curriculum will be

the same; and interactivities will be on e-Platform. Open Resources will be made available directly to every student -learner. *The distinct role of the Open University now needs to be identified in the context of New Reconstructed Education being offered on the e-Platform.*

An issue of inclusion of private colleges and private universities in the system needs to be considered with caution and care and resolved by checking out the impending bad influences and impacts of their 'private' processes and practices that are harmful for 'Social Commons'. It is advisable to limit the stakeholders only to those who are associated with students and learners in the system supported by the Innovation-Eco-System. By creating appropriate norms of protecting the value based commons, one may allow partnerships with 'private' institutions. Further the public universities and colleges should work with corporate culture and promote motivational aspects to work for self as well as for society for the larger goals and show accountable performance results. RTI should be incorporated in all HE institutions demanding to put the process-results on the institution website so that no one has to demand any information of public interest to any Higher Education institution in Maharashtra.

The private institutions in PPP could be a part of the system development and operations. Corporate Social Responsibility should form the basis for working together and social capital be pooled together to develop and promote innovation and creativity based social development and prosperity with win-win approach for private, public and local /virtual communities.

Two major functions of the MAHED:

Offering administrative and academic support services to all universities and colleges through five divisions of MAHED, and promoting 'Open Learn Channel' for large number of learners from formal and non-formal stream students with the cooperation of YCMOU and DEIs and create access to a large number of higher education learners. For the second function the MAHED will have to create system of evaluation for all in the state. It can be organised under the State Board and if essential through regional boards. The system should open to the universities and colleges to use its services and mechanisms.

Universities and autonomous colleges are free to join such evaluation services or create their own services.

Outcome and Impact of the HED Networking and Services

The centrally created and managed E-Platform:

- To create 'level playing field' for all stakeholders of Higher Education
    - Offering every learner and teachers the facilitation for their learning, support functions and learner /learning management system
    - Personalised and group customised and institutionalised services for their learning and development activities
    - Facilitations for creating resources, values and services such as latest technologies, tools and techniques, etc.
    - Centralised management system of partnerships and consortia for all the Universities and Autonomous and Affiliated Colleges to ensure their autonomy

  - Promotion of L3 and A3 society in Maharashtra and its developmental progress and prosperity
- Use of such e-Platform will promote transformation of society by
  - Continuously increasing capacity and capability of learners and their groups/institutions
  - Creating L3 society based on core values and principles and open and transparent culture of working and innovating

Higher Education institutions are to play catalytic and reconstruction role in the process of social transformation.

It is proposed that such a division should be established as a **Social Development Education Corporation** working with self-supporting way and generating resources for supporting the New Paradigm of Education for Connected society in Maharashtra /India.

Division of Under Graduate Evaluations (UGE Division)

The Evaluation Division will support both the functions of examinations and evaluations.

It should be noted that the two functions of examination and affiliation of the public university dominate the work of the top university bodies and consumes nearly 80% of their time. The two functions also bring in resources for the university as well as ‘outside’ pressures. By using A3 connectedness, e-Platform, ICT applications to on-line information gathering and evaluation technologies, one can ease the pressures as well as streamline the two services to the university campuses as well to autonomous colleges as well as to affiliated colleges. At UG level they differ in course contents as well as in capability and co-creativity building of students, which becomes the duty of teachers and colleges to do them and maintain highest quality and integrity in these functions. Openness permitted on the websites and e-platform can help in bringing in peer support and evaluation.

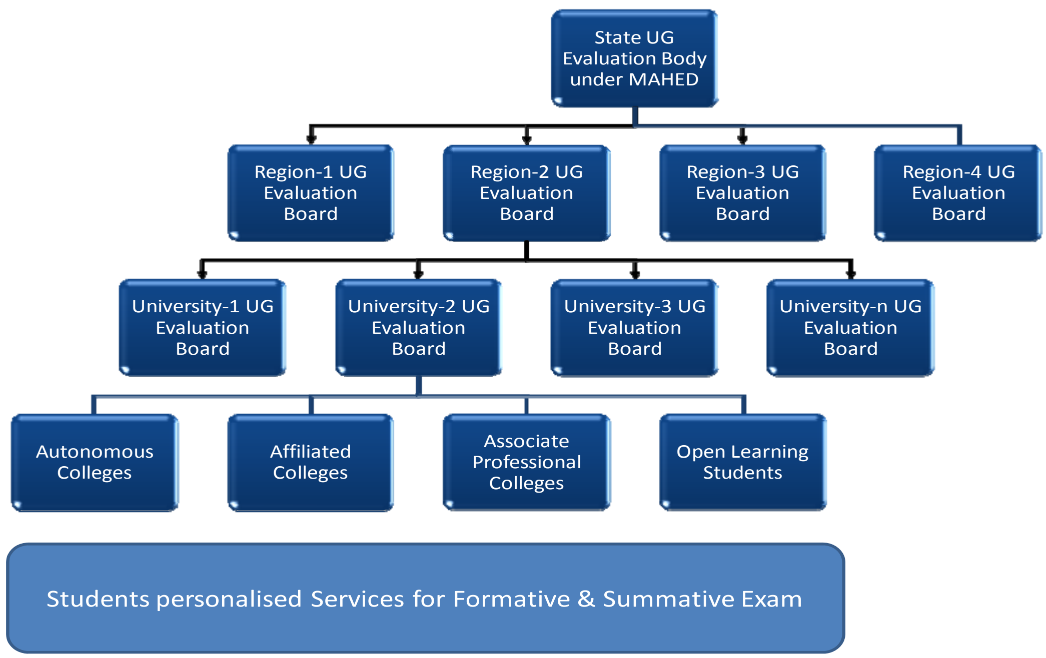
Regional UG Evaluation Boards with autonomy will be created and customized services will be provided to university and colleges with formative and summative services to students with on-line and on-demand examinations. Once such services are made available the pressure of examination can be removed and students can obtain their scores from the board that will be counted in their performance portfolio.

Approach to the Organizational Structure

We propose a model of the State Body under the Director of MAHED with Regional Boards as branches working autonomously within a framework finally accepted by the Commission to support learning in the knowledge society. While suggesting these Boards with centralized – decentralized bodies, we have taken into account the need of the open learning stream that is getting mixed up with every learner, formal or informal. We propose a centralized body for coordination and maintenance of standardization quality, and decentralized one for distributed learning with customer needs and their choices. The State Body on evaluation under MAHED has to play a very important role of integrating evaluation methodology of standardized exams for knowledge and skills development.

The Regional Boards will be **autonomous bodies and work in partnerships with universities and autonomous colleges.** The arrangement is given in the chart below.

A student is to be evaluated for Capacity Development as a part of self-development in terms of knowledge and skills learnt out of the curriculum based learning. The other part of capability development depends on problem solving in real life and work. This has to be done with the help of assignments and projects having situational and developmental nature and done by the teachers and colleges/ university campus departments. Teacher related services are to be provided to students in the Digital University / College framework of LMS (Learning Management Services).



The Regional Evaluation Boards will carry out capacity based exams. It will also support capability evaluation by teachers /colleges /university by creating a pool of expertise for the purpose.

Services of Examinations and Evaluations

1. Incorporate all the essential examination and evaluation requirements and offer personalised and customised services to the University, autonomous colleges and other affiliated colleges.
2. Offer on-line and on-demand services to students learning with all colleges / universities.
3. Offer formative evaluation services to every learner.
4. Provide provisional certification immediately after Summative Examination.
5. Offer Feedback Services related to:
    - Performance of College/Department, class, teacher for raising their quality and excellence

- Ranking of teachers and institutions and their performances in comparison with others

Outcome and Impact of the State Board of UG Exam and Evaluation

It is to develop and offer:

- Standardized services for capacity development to all learners
- Evaluation services to institutions for their external evaluation processes in capability evaluation
- On-line and on-demand examination services at convenient places in Maharashtra
- A channel of learning and evaluation process for various degrees and diplomas without limitations of numbers
- An open and transparent evaluation services and offer feedback to learners in their learning

Higher Education Teachers and Institutions Can then

- Concentrate on learning and development of learners and their learning groups and communities.
- Ensure autonomy of their institutions by incorporating their needs and requirements of institutions.
- Ensure autonomy of students in selecting courses and giving exams directly to the Board.

Note:

It is important to note here that the Indian system of education, including Higher Education, is having culture of evaluation /exam centricity, and its back impact is to control the grid of teaching and learning processes and activities. The diversification of evaluation processes and use of various tools and techniques for various aspects of learner development as given in work centric learning is, therefore, very essential. The autonomous colleges and campuses should move away from only standardised examinations for 'capacity to capability and co-creativity building' as well as linking education with livelihood and social development.

One-to-one relationship with a university and the Board of UG Examinations should be avoided to ensure equalisation of standards amongst universities and also to raise standards by working together.

The UGE Body has an important role to play in creating quality standards in exams and evaluation so that student performance could be compared and assessed with the right perspective of his/her self and social development.

Quality & Excellence Assurance and Affiliation Council (QE Council)

The function of the Council is to create networked system linking all Universities and colleges with the QE Council Network and maintain institutional information data required for QE Assurance through their information gathering and over viewing processes.

The Council will:

- Link itself with IQAC (Internal Quality Assurance Cell) of every college, university and their departments
- Promote the process of quality and quest for excellence for Educational Performance of every institution affiliated and recognized by the University
- Link itself with NAAC for offering institutional evaluation and accreditation services
- Link itself with University in supporting their affiliation functions by following university rules and regulations
- Maintain high quality of services, open and transparent, to all the affiliating institutions for their development and progress in quality and excellence.
- Promote transparent and open approach to the Council Management of assessment and accreditation processes of quality and excellence for every institution
- Overview and promote Formative and Summative Performance Evaluation of educational processes
- Issue certification to institutions, groups for their performance excellence

In carrying out its functions, the QE Council shall use all the latest technologies in ensuring transparency and accountability and RTI Act for all the stakeholders of higher education.

The QE Council will be an ***autonomous council,*** working within the framework of the Commission; and will be self-supporting not only in its functions and resources, but will also create expertise of QE assurance in the education system to promote the quality movement in Maharashtra reaching out to every student, teacher and educational institution.

Outcome is the creation of open and transparent system of quality assurance and excellence promotion, accreditation and affiliation by using e-Platform and free flow of information communication.

Open Resources and Empowerment Services (ORE Services)

The model of education proposed (work centric learning and social development) in educating students /learners to play various roles in learning and developing processes involved in individual and social development. Students as well as teachers can do their roles efficiently provided they are well- supported by quality Open Resources created out of global and local resources. Such resources can be created with contributions coming from all experts and knowledgeable people (Wikipedia approach) to create socially useful and productive work output - the **Social Commons**. The result is a personally and socially created wealth. This is economic and social empowerment process obtained through learning linked with social developmental processes. (Ref. Age of Innovation by C K Prahalad 2008).

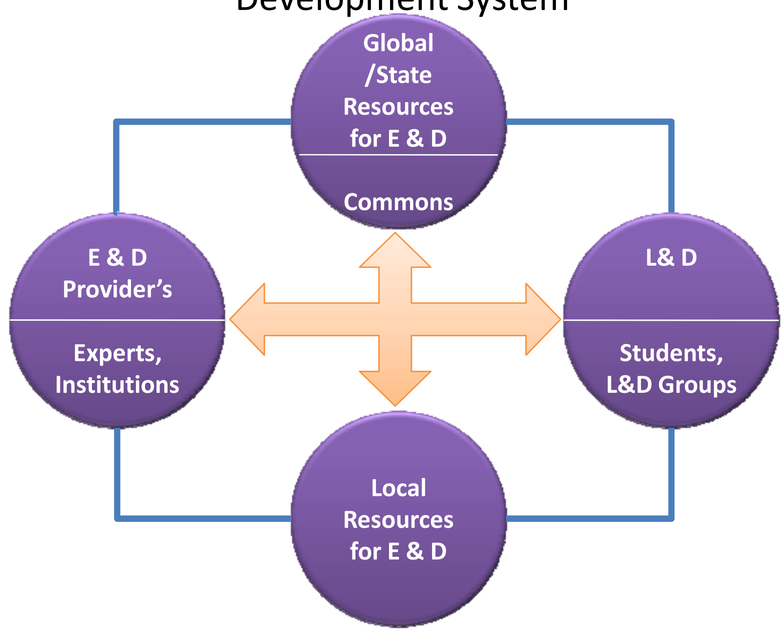
The iterative process of continuous quality improvement of the work into wholesome work is given by:

Education / Learning + Work + Technology ←→ **SUPW / Wholesome Work**

Work and the working process are therefore the functional outcomes of learning, technology use, social usefulness and productivity of the individual and the groups working towards creating or modifying the existing Quality and Excellence Assurance norms.

In I-Eco-System we create three spaces to support learning and development of the learner and his/her group. The three spaces linked to the learners are indicated in the diagram (Fig. given).

Networked Open Resource (OR) Based Education and Development System



This process is promoted in the new education system by the OER Service Division by:

1. Forming working groups, pariwars and communities for various learning and development programs.
2. Promoting social organization and self-governance with autonomy of the learning and developing groups, pariwar and communities. It is essential to develop leadership system of these groups for achieving better performance through cooperative and collaborative working with transparency and openness. Group leadership should be based on democratic and participative decision making and self-governance. This has been successfully used in *Swadhyaya* and *Prayog Pariwars.*
3. Creating special interests communities like Grape Growers Association in Maharashtra that bind farmers together with cementing force of their common interest. Such communities should receive / create Open Resources and link their education with continuous development of products (products and services) and market them in local and global business places. They should also create value / wealth for individual or pariwar and have some share for the community. It is essential to promote PPC - Partnerships for creating wealth and values in sharable forms.
4. Promoting use of self-governance and autonomy by ensuring participatory decision making and sharing work in a group working for producing results. This is essentially a team work. This team working for developing should start from the bottom, with the learners and their learning stage or levels and rise in levels of achievement of good results. Forming pariwar and communities with sharable common interests and cooperative learning and working with win-win approach is the goal for social organization and transformation.

The process is very close to the SHGs run with self-governance and autonomy, with nurturance of leadership coming from amongst the group members. Such working is possible only when working of a group is based on shared values and principles. This division of the Commission should promote such group formation and organization, and organize their training and empowerment. This way of learning and developing should also become a part of credits to be accumulated by a student. Portfolio based approach for evaluation and credit assignment is very much useful. Social exhibitions and show of performance results at local and regional /national levels and promotion of open assessment of quality and socially useful impact of learning and development in all sectors and human and social activities (cognitive, affective and psychomotor nature as well as in social sectors) is very essential for developmental education. We may put achieving MDGs, poverty alleviation of physical needs and nurturing culture of the age as the larger goals to be addressed.

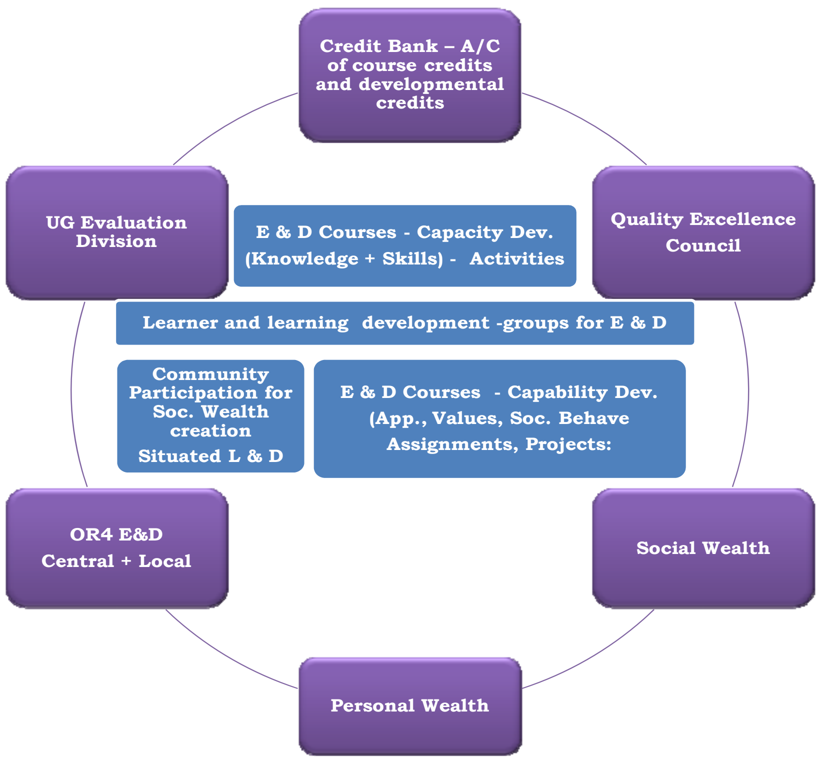
Outcomes of the ORE based services are:

- Open Resources (OR) formation and utilization for various development sectors to support learners and developing
- Organization of empowering processes by forming learning and developing groups, pariwars and communities
- Open and transparent process of cooperative and collaborative learning and development of leadership from the grassroots and creation of OR and Wiki Resources
- Open Learn system integrated with formal system on e-platform for larger access and higher quality

Specifically the outputs could be measured through:

- Learning and developing groups and their pariwar and communities of interest and practice.
- Knowledge and social development created and contributed by learning groups and their communities as social and developmental commons.
- General level of learning and social development obtained by groups and individuals locally in comparison with regional and global development Sustainability and prosperity /progress achieved by the groups on the basis of their personal /group wealth produced and contributions in wiki processes and co-created commons
- Capability created in the learning pariwars / communities in solving their own developmental issues cooperatively, peacefully and in partnerships.

This division of the Commission paves the way for establishing L3 society of the 21st century.



MAHED shall create the mechanisms and make related services available to all students and educational institutions:

1. **E-Platform** with all essential services and policies to '**create level playing field'**
2. **Open Education Resources** for Learning and Developing for all learners
3. **Interactivity devices** for process-result studies and continuous modernization of technologies such as:

- Websites and web casting
- Distributed Classroom and related services for interactivities
- Blogs for self-expression
- Social networking (Face Book and other devices) for self-organization and group action

4. **E-Portfolio** along with personal, group and presentation portfolio
5. **Learning Management System** to manage learners, learning and development of students individually and in groups
6. **On-line and on-demand services** for exams, evaluation and accreditation
7. **Wiki processes** and organizations for OR development and learner empowering processes
8. Outsourcing and in-sourcing services of experts and teachers

This should enable universities and colleges to concentrate on their vital learning, teaching and development functions.

Innovation Eco-System is Supporting /Promoting New Education Paradigm

With the services of its Divisions, the Commission is enabling a new paradigm of education. Basic features of the system are:

- Promoting the transitional stage from industrial age to post-industrial age, the mixed modes of education (traditional / formal, open and informal modes of education). However it prefers having high transforming value, a new mode of transformational education on e-Platform. (Trans-mode)
- **Mixed mode approach** to education by combining
  - **Traditional Way of Education:** Existing content and teacher centric model of education (Capacity development- Learning from concepts and content of Curriculum). We may promote activity based learning (Constructivist learning promoted now right from primary education)
  - **New Education** model based on activity, assignment and project based constructivist learning (e-Platform based) model (Capability development based)
  - **Co-creation Model: Learning is linked integrally with development** through *samavaya* and SUPW (Socially Useful and Productive Work – Work-Centric learning approach). Obtains socially created learning and development.
- **Uses Global and Local Resource based model** by using **Open Resources** as the content for learning and open resources for Capability Development (Social Development processes)
  - All students and teachers contribute and use the content-OER (Open Education Resources); experts maintain quality in OER content. (through Wiki groups/organization)
  - State level mechanism (ORE Services) to support and promote wiki and open resource processes and to create social and developmental commons
  - Promotion of Life-Long-Learning (L3) by assigning permanent Learning ID and portfolio account through Credit Bank

- **Teaching** is promoted through courses /programs of learning and self-development of learners
  - Social development and SUPW is promoted through work-centric learning
  - Learning is linked with wealth creation for personal and social development (Link with jobs and livelihood)
- **Learning** is promoted for
  - Self-development (knowledge and Skills development)
  - Social development
  - Professional development
  - Personality framework development
  - Personal and Social Wealth creation

  Portfolio of each student is prepared on-line as well as by the student with his/her contribution from their group work.
- **Evaluation** is done through
  - Formative and summative evaluation supported by the State Board of UG examinations and evaluation. (Capacity development)
  - Portfolio based evaluation based on contextual and situational assignments and projects done by the students. (Capability development)
  - Group and wiki contribution done by the student and his/her group to social wealth /commons created
  - Learning and development paths planned and success achieved by student
- **Certification**:
  - Students have the freedom of taking courses from local or nearby college / university campus or from any outside education institution in Maharashtra. Accumulated record of credits and portfolio will be preserved in the Credit Bank, and used for various purposes.
  - Certification is on continuous performance basis as well as on the total and wholesome performance of the student. It will be reflected in the transcript given by the college and university to the student.
  - Student can get degree from a University / Autonomous College after fulfilling the degree requirements.
- **Affiliating University** working under the Commission. It consists of
  - University Main Campus having Teaching and Affiliation Administration Campuses.
  - University district campuses located one in each district, with each center having large teaching (500-1000) faculty and student (5-10,000) for UG, PG, research and development programs.
- **Affiliated Colleges** are of THREE types:

  a. Autonomous colleges (having B+ and A-grades of NAAC) – Self-governed.

  b. Affiliated colleges (managed by the university with the help of MAHED services for UG examinations and QE Council) governed as per the Commission and university guidelines, and having the responsibility of going over to the autonomous status

c. Associate Professional Colleges (two year programs of Tech-Voc nature- based on modular courses each with credit points): The credits awarded by the college with the help of UGE Division and its Regional Evaluation Boards can be carried to the degree program.

- **Consortia of Colleges** for Specific Interests
  - Group of local or specialized colleges come together to offer better quality services and local facilities to offer and attract students in their enrolment
  - Consortia are also formed for the specific domain areas /people /locality for development
  - Consortia work within the framework given by the Commission and manage operations with self-governance and autonomy
  - All are accountable to society and the State (RTI is applied)
- University functions for
  - Autonomous management of district campuses and autonomous colleges.
  - Promotion and guidance to strive for quality and excellence by all campuses and colleges.
  - Linking education with development for all students in the university, in colleges by raising relevance, quality and excellence of their performance.
  - Offering open channel of learning on e-Platform.
  - Creating culture of excellence in all work and performance.
- **Integrated Open Learn Channel for ALL** that promotes inclusion of social expertise and voluntary services in offering quality education for all learners.
  - In partnership, it enables social expertise and voluntary services to be used in the developmental learning and creating Learning and Social Commons.
  - Enables small groups of experts, individuals, local institutions, NGOs etc with high professional and practitioner expertise to participate in L3 and developing processes.

  Higher Education in the New Age of Knowledge Society is now allowing everyone with the opportunity to become *Ekalavya*. Creating such a learning and developing society is the need of the 21st century society.
- **e-Platform and Learning Eco-System** with the latest technologies is the transforming aspect of the New Education for A3 Society. They are given in the two enclosures below. (Ref: Note by Shri Vivek Sawant, MD, MKCL on educational linkages with Socially Useful Productive Work)

It should be noted that it is quite possible to develop courses that could be so designed with the help of learning and management technologies that learning could be linked to solving challenges and linking student's work with creativity and production of value/wealth. (*Result oriented learning and developing*)

Sub-Division of Universities through Creation of Multiple Campus and Autonomous Colleges

The major question posed is of sub-division of universities. By considering the global and networked nature of future society, it is clear that isolated university system in now getting outdated. University seeks cooperation and collaboration to ensure high quality and relevance of the learning and research of their universities. University now has to link itself with learners, teachers and experts not only from the neighbouring institutions but also from the society, nation and outside. The competition to attract more learners is now on the basis of quality, excellence and competitiveness of the education that is offered to students by the university and college. After graduation, students seek to get better, newer, localized and globalised jobs and work opportunities.

University Townships

New Resources: University Township and PPC Partnerships

New University Township in the districts could be created as *Special Social Developmental Education Zone* with the concept that the university works in partnership with all its stakeholders and creates a new township of the 21st century connected community of learning and developing society, which can progress socially, economically, globally and locally. The development should use all the global knowledge, resources and technologies by reorganizing the peoples' settlements now living in the area and making them the shareholder of the future development and wealth creation. University Campus should find its own place amongst this resettlement and reconstruction of knowledge economy and society. This should emerge as a *model of social business/production/marketing/ value creating* (Approach of Prof Mohammad Yunus) as against profit maximizing approach by some private business industry /marketing. The foundations of some corporation's such as those of Tata, Wipro, Bill Gates etc. could be invited to create a new age settlement of township and new age university for learning and social development through their social capital contributions.

All university students, teachers and management should play active roles in this challenge of radical reconstruction of such learning and developing society and its reconstructed developmental education.

CHAPTER 6 - Higher Education Structures and Functions

Forms and Functions of Universities / Colleges & Roles of Students and Teachers

New Education for the A3 Connected society supported by the Innovation Eco-System - the e-Platform with all the provisions of support technologies, knowledge resources and services for various interactivities and functions - has a networked structure and functions enabling innovative, creative and entrepreneurial capabilities. This enables us to connect education with development. It also enables personalization, group-customization and mass-collaborative functioning. All this requires university functioning to have two additional functions of applications of knowledge to development (Social Development), and self-governance and autonomy (Autonomous Self-Governance) to work together, co- create and be useful to the society.

University management structures, therefore, should include all the new features in the University Act 2011.

Each university has the freedom to find a way it considers appropriate to create futures for themselves and for their learners, affiliated colleges and the public in their area of jurisdiction. The connectedness with A3 scenario requires deeper understanding of the new processes and mechanism, and knowledge about how society, particularly the connected people and the young generation, are getting organized around the new technologies for their socio-economic goals and objects.

Since each university is autonomous, it can evolve their own approaches and organization within the structures of the Maharashtra Universities Act 2011 to suit student's needs locally as well as to suit their national and international aspirations and perspective of learning and development. Same consideration is applied to the autonomous colleges. The affiliating colleges have to follow a path to become autonomous by developing their college to B+ and A grade level of NAAC. Till then they are more governed by the norms and guidelines for the affiliations given by MAHED for affiliated colleges, and approved, accepted and implemented by each university for its affiliating colleges in the affiliation area.

Sub-division of the Universities

Once the Innovation Eco-System and e-Platform services are available, the requirements of the District University Campuses become quite different; they require fewer resources and can stay focused on academic, research and development.

It is proposed that 10 Affiliating Universities should be sub-divided into 35 District Campuses, including the existing 10. Each District University Campus should be managed by the autonomous system of decentralized management empowered with academic and managerial autonomy with accountability. All the universities and colleges are to be A3 connected by ICT Connectivity and facilities. The connectedness removes the conventional concept of jurisdiction and creates possibility for the education system to reach out to every student in a highly personalized way.

Affiliating College will also undergo change and has to be adapted in the Higher Education System suitably and differently. Everyone involved - students, teachers, departments, colleges and university campuses - has now to follow upgrade path of development for themselves with quest for excellence for the individual and institutional performance to serve students and society with their higher quality learning and developing services.

Higher Education Structure of a University

Every university in a connected networked system will have following types of institutions under its management and affiliation:

1. University Main Campus for organisation, administration and management of Higher Education and Development in the affiliating region assigned
2. District University Campuses for Higher Education, Research and Social Development
3. Autonomous Colleges (NAAC B+ and A-grade), Empowered Autonomous Colleges and
4. Affiliated Colleges
5. Associate Professional Colleges with Vocation Studies and Links with Livelihood and Industry
6. Empowered Autonomous Cluster Institutions and Special Interest Based Consortia of Colleges

University in such an A3 Connected scenario is a global as well as regional/local institution in nature. Above organisation of affiliating university gives the three tier organisation with:

- PG Studies, Research and Development in the top tier with institutions of District Campuses and Autonomous Colleges
- Under-graduate studies at the middle tier in all the institutions
- Associate degree/diploma/certificate education at lower tier covered by autonomous, affiliated and associate professional colleges

The autonomous nature is to be used to fulfil the wide variety of needs of learning and development of the students as well as of people /community around.

Various MAHED Divisions offer a range of support services to the following that make the tasks of teaching, tutoring, mentoring, guiding for teachers and self-development, professional/vocational learning and social developmental learning for learners quite easy:

- Digital administration (MS-EDUNET)
- Technology and knowledge resources (OERs)
- Under Graduate Evaluation Services for formative and summative evaluation of courses
- Service Agencies, Affiliation and Quality Assurance services and Open Learn Stream of programs
- Networked vocational skill development programs available at various centres created in various established and professional colleges

Teachers and students in such a scenario have to concentrate on learning and developing so that a student aims at self and social development to find a place in society and the world of work; and follow a career path for lifelong learning and developing. Students can use the Innovation Eco-System and e-Platform to choose his/her courses and go in for face-to-face courses in a college or in a distributed classroom and have an assistance of tutors for a course guidance and mentors in a local study center for his/her studies and development.

To offer the benefits of the A3 Connected society, a student is given choices to choose the courses he likes or needs. Providing such facilitations for learning the course is the responsibility of every college, affiliated or autonomous.

Major concern of the university functions of Higher Studies and Research is that the higher stage for research and creation of knowledge is highly affected by those who are not involved in regular research and development due to their major participation in university bodies, which is a structural defect. Hence the top stage of PG and Research level for its management and organisation should have participation from only those involved in research and development. The researchers at the university campuses and PG programs should contribute and share their resources for quality research outcomes. All these experts and teachers should use their experience and expertise not only for PG students but also for UG students; and guide them for their capability and talent development for inducting them in the highest level of studies and research for creativity and innovation.

The UG Colleges are affiliated to university within the university jurisdiction for academic support to upgrade their path. The university jurisdiction should be the limit for this purpose. The UG Colleges will be governed by the norms and guidelines given by the Commission and adopted by the University.

Mixed Approach during Transitional Stage

Transition from the industrial society to post-industrial society is at present going on; and the next one - two decades of twenties and thirties, may be required to complete this transition into a new age society.

With the help of Innovation Eco-System, it is hoped that the universities and colleges will be able to make a transition from NOW situation to the FUTURE scenario of A3 Connected society. In this change process, they will have to adopt/adapt new processes and mechanisms that are existing and emerging. Educational Strategy will be to use a mixed approach with the **three models** of learning /education:

1. *Traditional Education* (Cognitive/ Behavioural Learning): For *Capacity* building based on curricular knowledge and skill development.
2. *New Education* (Constructivist / Work-centric Learning): For *Capability* building based on applications for situated development, change / nurturance of attitude /values and for better social behaviour in group working and learning.
3. *Co-creation Education* (Connectivist Learning): To create social wealth and commons for socio-economic development of the individual and community based on wiki organisations and processes.

All these will be used for learner's self and social development; and the wealth created by him/her for personal use and for additions to the Learning and Development Commons - the Social Commons.

Students to be catered for in Higher Education are:

- *Full-time students* enrolled in colleges and universities
- *Own time students* admitted at present through Distance Education Institutes (DEI's) and Open University (YCMOU) in Maharashtra and coming in the Open Learn stream

These will be added with L3 (Life-Long Learning) students who would like to learn /develop /create at any time of their living and working, and would join learning /developing available in the higher education system for:

- *Upgrade Path* for their learning-knowledge (Self-learning), career path
- *L3 Participating in cooperative learning* and development processes.

New Education should cater to all learners in their learning for development and learning from development. (*Samavaya* or bootstrapping)

Learner and Learning Development

Learner performance evaluation is done on the basis of *workbook /portfolio* of performance on the basis of Personal Development, Social Development and Wealth Creation. Evaluation is done with the help of UGE Board assigned with the responsibility of offering customised services for the University and its affiliated colleges:

- Evaluation of content of the curriculum (**Capacity** building) is done with the help of formative and summative evaluation scheme prepared by the university for all its courses /programs by offering appropriate services to every learner by using the latest technologies.
- Evaluation of **capability** is done on the basis of assignments and projects done by the students (individually or in a group or in wiki process). The outcomes are evaluated internally by the teachers /tutors with the help of mentors. The term / semester - end examination is taken by the Regional Board for the University.
- Evaluation of the **Social Wealth creation** will be assessed on the basis of the project work done in collaboration with students and teachers by participation in wiki process - cooperative /collaborative work processes - in which learning and developmental aspects are interwoven. Students have to present their contribution in the wikis by giving small work account and the learning and personality development achieved.

The extension function, introduced by UGC in 1976 policy of the Higher Education as a third dimension besides the other two of teaching and research, is being carried out through universities and colleges through schemes like, adult and continuing education, NSS etc. These activities always remained peripheral and were not carrying any academic credits. These activities become curricular activities in the New Education and can be used as the Developmental Learning activities by ensuring group co-operative learning from the social work they do and common wealth they contribute. In Pune University alone, NSS has contributed yearly through 250 colleges and 40, 000 students a social wealth of Rs 2 cr (Refer the note by Prin N Nikam in the Enclosure). The yearly contribution of 10 universities could be Rs. 20 cr from 10 universities and may grow if social wealth creation becomes a duty of every student and teacher. Besides, the other social contribution is from the awareness programs and its value is not yet assessed. Wiki processes and wiki organisations could be used for the whole state for all Higher Education as a part of their studies for Social Developmental Learning.

Students once registered with the nearest college in Maharashtra affiliated with the public universities, will have access to the e-Platform and selection of courses of his/her choice and needs from all universities / colleges.

1. Student will receive *Permanent Learning ID (PLID)* given by the Credit Bank with Personal Space for depositing personal portfolio for personal, academic and social working. Learner can carry the PLID till s/he continues to be active learner for personal or group learning and socially developing.
2. Students /learners have *freedom to choose courses/modules* for his/her development from all the courses available in any college /university campus from anywhere.

This freedom is exercised and support and guidance is given to the student by a college/university chosen. For expanding inclusion, each college or their consortium should assemble not only full-time resources but also own time resources from society and outside to provide personalized guidance and support.

The Open Learn channel is always available to the students. S/he can use the Open Education Resources for learning and development available for the formal students and study and do activities, assignments and projects and accumulate credits and claim a degree, once enough credits are completed.

Nature of Evaluation of Student Performance in Constructivist and Connectivist Learning

Process-Performance Based Learning

It is done on the basis of total development of the student in various aspects of learning and performance. This will be the performance at the time of the final examination on the basis of courses or programs, to award a degree. Performance is to be based on evaluation of student's 'process-result' of the learning and development path as presented in the performance portfolio of the student. A student has to carry out the study and development under the supervision of a mentor.

- Learning process is important and hence how, why, with what attitude and behavior the student has followed the learning path has to be considered, evaluated and graded.
- Development is the result of the process of learning. It is obvious that some of the results, particularly, during the formative stage will be poor, and will improve once learner studies, practices and develops to a high level of performance. The performance and the way student has got the results - the process, and creativity and innovation introduced in the processes, and final results obtained should form the main basis for evaluation. It is not the process of averaging as is used in *content covering* process used in the current evaluation process. Hence evaluation should be based on:
    - *Evaluation* of *Formative Process* of learning, developing and obtaining results.
    - *Evaluation of Summative Processes and Final Results / Outcomes* recorded and displayed at the time of the course or program –end exam /assessment, which leads to the award of a certificate / degree.

The record of work and performance as displayed in the portfolio from time-to-time and seen and commented by the peers and teachers becomes an important document and tool of evaluation of student performance.

Such an approach was used earlier in the university examinations and was known as "**judged as a whole".** It is also used in the constructivist learning process as well as in the research outcome evaluation.

Certification of a degree or diploma is given by the university depending on the regulations prepared by University as per the New Act. However, the transcript given to each student with

his/her presentation portfolio should be a part of the record and certification awarded to the student.

One of the major outcomes is that this New Education is not the more of the same, but more with higher quality and higher levels of achievement and performance. A student at a lower level (UG level) may do a work that he may take at the higher level and stage of knowledge and technology applications; and show superior performance level. Such a student can be graded appropriately by giving higher stage and level grades and his/her talent and work /studies could be well awarded. (In such a case a student can get more than 100% marks in the current marking system!)

Learner and Learning & Developing: Focus of the Education System

Learner, individually and in a group, is the focus of any education system. S/he is an integral part of the learning and social development system, and hence his social behaviour in the I-Eco-System and connected society is very important for good education and good social impact.

Learner has freedom and rights

- Freedom to choose courses and follow his/her chosen Learning and Development Path.
- Freedom to take courses from the nearby or from any college or university campuses either in face-to-face or open learn program.
- Right to have quality learning resources and quality guidance from teachers, tutors, mentors and guides either from the local college or from outside.
- Right to have formative guidance as well as open and transparent summative evaluation of his/her performance.
- Right to carry Credit Bank A/c and deposits of assignment and project reports to use it for all the life and to have L3 opportunities for enrichment and developmental purposes.
- Right to access to the network and services on payment of fees for registration and course-wise fees as decided by the University. This will ensure access to Open Education and Developmental Resources (OER) and High Information Processing Power.
- Freedom of Creativity, Innovation, Entrepreneurship in an area of development of his/her choice.

Learner has duties, responsibility and accountability

- Use his /her freedom without violation of freedom of others. Observance of economic, honest and sustainable use of the system of resources and provisions.
- Study and show individual performance results, including role in a group work, without doing any cheating, wrongful claims and malpractices.
- Strive to achieve quality and excellence in his/her chosen fields of learning, self and social developmental performance as well as in social and ethical behavior.

- Continuously add quality and useful content and experience in the Open Resources and participation in Wiki Processes and Programs.
- Protect Open Learning and Developmental Wealth of Resources and its appropriate use for self and social development, and stand against any misuse or selfish use that harms the sustainability of this social wealth/capital. This is to avoid 'Tragedy of Commons'.
- Willingly accept the punishment for correcting oneself and, in extreme case getting out with punishment, dependent on physical and moral damage done by him/her to the system of education.

Ensuring student /learner autonomy and accountability in the knowledge society is primary for the creativity and innovation in the creation of FUTURES. Further students should observe universal human values and see that his peers and others do observe them. Self-governance and autonomous behavior in and of groups / community in socially working together is very valuable in the functioning of the connected society.

Teachers, Teaching and Learning /Developing Service Providers

Teacher plays multiple roles in the learning and development of a student and of the batch /group in which s/he is working-learning together.

Role of a Teacher

Role of a Teacher in the New Education is very vital. We are at the transitional stage and a radically different age of 21st Century is being created with the use of communication revolution.

In such a situation when new FUTURE scenario are being created, education for such a change needs to be **radically reconstructed** to create those educational drivers that will shape the New Age Society. This may lead to **Educational Revolution essential for Social reconstruction and transformation. Education revolution is an integral part of the communication and social reconstruction / reorganization revolution currently going on in India and the world.**

Role of teachers in learning and developing are to:

- **Play multiple roles**: Researcher, Developer, Teacher (Tutor and Mentor), Guide etc to support student's Learning and Developing- individually and socially
- **Guide and Shape the CHANGES** in students and their groups in their working and developing by giving scaffolds of Teacher Services of academic and technological nature.
- **Follow Constructivist Learning approach** through Work/Activity Based learning and development with Assignments and Project based studies.
- **Promote Wiki processes, co-creativity and quality of Wiki resources** and students' organizations for developing and nurturing innovation and creativity and their use in creating social wealth.

By considering the big task of creating futures for every student, the teachers from the educational institutions alone will not be enough. We are proposing that all those experts and practitioners who can support student's learning and developing should be included as teachers. Their services can be used in the courses related to various streams by giving contractual appointments, both at UG and PG programs.

It is obligatory for every teacher as a part of his/her duty and service to students and studies, in classroom as well as outside, to present all the learning material given to / intended for the students on the website/ home page of the course in OER.

Teachers can be:

- Existing teachers working on permanent basis.
- Tenured teachers with five year assignment with opportunity to continue tenure.
- Contractual appointments for fixed period – Non-tenured teachers. Continuation is on the basis of quality of performance and results delivered.
- Temporary and contractual appointments for the job and work assigned (Empanelled teachers, panels created by the University)
- Outsourced providers (group of teachers or provider institution outside the education system colleges /university departments) that are already established or getting established can enter into education services and offer academic services and programs of quality education.

Teachers will be drawn from all fields (Industry, Professions, Society and Practitioners) of learning and development, working locally, regionally and internationally. Their payments will be comparable to the permanent teachers employed in the system.

- Teachers will be assessed on the basis of student feedback and performance of the personal portfolio of teacher's work showing progress in teaching, learning and up-gradation of his/her knowledge skills and performance.
- The processes of the performance assessment will be objective, transparent and open.
- Teachers will have to follow the ethical practices and values that make them good and ethical partners in learning and developing, in self and social learning and developing and co-creation processes.

Teachers can do freelancing or offer services on their own time and work in the education system.

Affiliating University

We are essentially considering 10 public universities working with affiliating colleges and covering jurisdiction of 35 districts of Maharashtra.

The changed concept and functions of the University and colleges should find expression in the new Maharashtra Universities Act 2011 being prepared by the Committee - 2 under the Chairmanship of Prof Arun Nigavekar.

Every University Campus should have:

- University Departments for studies and research for UG and PG courses and research
  - Campus Departments carry out teaching and engage in domain based as well as interdisciplinary/ multidisciplinary R&D.
  - Offer networked support to Open Education. (Including support for affiliated college development)
- Linkages with
  - Industry to support their research and development needs, Research parks, getting sponsored academic and research programmes.
  - Society: Engaging in economic and societal development in various areas of development both for UG and PG levels
- Research Collaborations - linkages with external research groups and institutions for
  - Knowledge Creation (bilateral / multilateral linkages)
  - Creating Learning and Developmental Commons – Using modern technologies / simulations /techno-devices to create Open Resources and Wiki Processes and organizations for mass collaboration with goals of social wealth creation.
- Create a **single network for PG courses and research** by creating Single State-wide Network. It entails:
  - Knowledge Network connecting all students, teachers and teaching and learning materials and facilities.
  - Each University will carry out its PG teaching and research in a coordinated way, and will be responsible for its quality and standards. It also offers its courses to outside students from other universities in Maharashtra and outside.
  - Each University will, at every district in its jurisdiction, create a campus that will have all the facilities for linkages with professional courses in partnership with industry and social institutions. The district campuses will link application of the subject discipline with industry and other socio-economic areas.
  - It will also create ‘finishing school’ type arrangements for various students at various stages (UG as well as PG and research) and ensure employment of graduates in Maharashtra, India and outside places.

City and District Campuses of University shall have:

1. **Research, Post-Graduate and Under- Graduate Department** attached to the Schools of Developmental Studies and Research, identified by university for socio-economic development of the people of Maharashtra and India. Areas should be limited by the values and principles included in the Indian Constitution.
2. **Every University Campus should have about 500-1000 highly qualified** and active research teachers in their areas of studies and the total number of students should be about 5000-10000 on the campus.
3. All the Campus Programs will have autonomous management system (Self-governance system). The University Administration shall create open framework within the New Act 2011 for creating new courses and educational programs and promote participative decision making with self-governance. The main university will have the **functions** of
   a. *Quality and Excellence Assurance* in all the processes of educating and developing. It will use the State QE Council services.
   b. *Education and Training* of teachers and managers for the quality and excellence in their support services,
   c. *Creation of Open Resources for Education and Development* for learner learning, self-development and Social Development and Wealth Creation.
   d. *Ensure learner autonomy in choice based course learning and developing and their linkages with development in the society.*
   e. *Promotion of research and development in education systems for development as well as domain knowledge development.*
4. The University will have **affiliation** with
   a. Autonomous Colleges
   - The well developed colleges with NAAC B+ and A- grade will be autonomous colleges.
   - The Autonomous College, if equipped well with faculty and facilitation, can have PG Programs and research.
   - They will have regular representation in the main University Bodies.

   b. Affiliating Colleges
   - All colleges having non-B+ and A grade will be automatically affiliating colleges.
   - It is the responsibility of the College Principal and its management to take the college on the upgrade path and become autonomous. They follow with time bound plan of up-gradation:

   Affiliated College → **Autonomous College** (Above NAAC B+ Grade) → **Empowered Autonomous College** (For awarding certificate, diploma and degrees)

   c. Associate Professional Colleges: They are like Community Colleges and will have
   - One-two year certificate and diploma courses with examination and evaluation carried out by the UG E Board. Their Q & E Assurance will be regularly done by the QE Council.
   - Regular students from Colleges can take professional course from such colleges. The credits earned by students will be accounted in the degree of general and professional nature.

- The Associate Professional College will be linked with Professional Degree College giving degrees and diplomas. (4 yr professional degree)
- All the courses and educational programs should have close linkages with industry, social and financial institutions, voluntary organizations involved in social, economic and cultural development.
- The Associate Professional Colleges will have facilities and departments for social and industrial needs assessment in the surrounding areas and placement cell with finishing school type training programs to develop job-ready students.
- The Colleges will be represented in the University through their linked College or Consortium of Professional Colleges.
- The management of the Associate Professional Colleges shall be done with PPP by the industry and professional experts.

d. *Open Learn Program* will be centrally managed by the University with participation of every sub-campuses,

- Since the same courses are transacted through classroom (face-to-face situation) and open learn stream, the same learning materials (notes, special content created, reference materials, pp-presentations, lectures delivered through network and web-casting etc.) and A3 interactivities with tutors and mentors can be used to support students in their studies and development.
- Universities and Colleges will ensure generation of Open Resources for learning and social development and promote wiki organizations to create social wealth by assigning this as essential duty of every teacher.
- Contributions to the socio-economic, scientific and technological growth and in OER and Wiki resources should have high value in the self and social learning activities and in development processes. It should be a major part of the addition to the evaluation in the credits achieved by the students.

Integration at the PG and Research Levels

When A3 connected society gets created with inclusion of all, the I-Eco-System and e-Platform creates a New Structure for the University Education. Out of the five foundational functions of the university, knowledge creation is the central to the human development. All the University campuses at each district should therefore become '**Centers of Excellence in Creativity and Innovations'.** To create an integrated network of PG resources and sharing, it is essential to create a network for higher studies that will promote research and developmental learning.

University is to concentrate on creation and application of knowledge / learning to various fields of science, technology and social development. Following is suggested for PG Studies Network:

1. PG Teaching and Research at Main and Sub-Campuses is coordinated through networking and virtualization of work, services and activities. It mainly concentrates on the use of capacity for capability development with abilities to innovate and create and find useful learning and productivity nationally and socially.

2. All university campuses will teach and help the UG and PG courses with the help of tutors and mentors. Their goal is to support capability development with creativity and innovation resulting into scientific, technological and social learning and development.
3. Each campus has Schools (created and linked with Developmental Areas) working directly under the Academic Council and **Deans of Studies and Development.** A Policy Framework should allow decentralized and autonomous management with transparency and accountability
4. Schools should be based on Developmental Areas and not discipline or domain related faculty as at present. Under each area more functional /developmental areas could be identified depending on the needs of society, nation and interests of university and research.
5. UG programs should have separate BOS and Schools and their autonomy and governance should be ensured by appropriate legal framework.
6. University campuses in each district should ensure the coordination and support services through Block Centers to colleges, teachers and students.
7. Each University campus at the PG level should become centre of excellence for studies and innovation creation. It should have such **incubation centers** at each centre.

Autonomy /choices to students and colleges will be ensured with certain freedom and accountability at all the University Campuses and autonomous colleges. Their responsibility is to ensure quality and excellence in their learning and development path and run the show with self-governance within the framework given in the Act 2010. For this purpose they should use various means such as formation of alliances /consortia for quality education for all, generation of resources and funding etc, Open Learn stream to be established on every campus and colleges to ensure student choices and promote achievement of personalized and group goals.

Affiliating College Roles

A college affiliating or autonomous, along with their teaching and administrative staff shall strive to support student's choices and make provisions to support learners in their learning and developing. Each college shall create a Study Centre for Open Learn Students that has all the facilities and support services to offer essential local services to the open education students, who could be from their own college or from outside.

A college should have A3 connectedness, facilities for their and nearby teachers to participate in the distributed classrooms as well as for transmitting their college classroom lectures.

Higher Education Diversification at the Middle and Foundational Stages

Linking Education with Livelihood and Development – Personal and Social

One of the requirements (TOR given to the Committee) is to increase employability of graduates coming out of higher education stream. This means the bottom of the social pyramid entering in the Higher Education needs to be widened with appropriate linkages with world of living and working, which is organized through social and education institutions and industry.

The industry employment pattern at present is that nearly 6-7 percent employees are in permanent positions with life security (pension or similar benefits) and equal number in long term employment mostly in big, medium and small industries. The rest of employment, nearly 85-87 %, is in micro (small group) and tiny (self-employed- one person one job type) industries. The last one is rather unorganized. In this case, it is clear that for majority of graduates, the job and works are available in service sector of unorganized sector of industry in local and regional markets. It is therefore essential for employment to search job/work opportunities in outside /foreign places; this call for internationalization of the curricula and essential skill development.

Most of the jobs in micro and tiny enterprises are in the services - either in the upstream or downstream to the production centers. The jobs are essentially in support services, and mostly in personalized services in sectors such as agriculture, health, education, small and medium industry, etc. In medium and big industries, jobs are usually available in the up-stream and down-stream chains of industry services. Employment of private nature is available in works including domestic workers. It is therefore essential to link education of the ten general universities with work opportunities of the type of Lijjat Papad or Mumbai *dabbawala,* farm labor and farmer by using latest knowledge and technologies and making them of creative and enterprising nature, and creating service industry out of it.

Most of the jobs of service sectors will be to link producer to customer and raising the quality, technology inputs and personalization of services in all these services. This will hopefully find abundant opportunities of employment in the new Networked society. The employment being empowering process both economically and socially, it is always possible in service industry to modernize the nature and quality of services and earn more. The linkage of general education with other sector in developmental learning is therefore essential for linking education with work – job opportunities.

This asserts the need of integration of all types of education, health, technological, agriculture, general, etc, in the development of socio-economic and technological nature. How to integrate this is a task before universities. We propose that universities should create partnerships and consortia that will promote win-win situation and create self-supporting institutions that will change nature of its services. These services should be value/wealth creating.

Our suggestion is that all the educational institutions of general (10 universities) or special universities (Open and Sanskrit University), of sectoral nature (Agricultural, Health and Technology or proposed Law University) should have some **mechanism at the district level** to integrate all the services of the universities in the working and operations of the socio-economic and cultural development. This should be developed at different levels of application of knowledge and technology**.**

***All should come under the single umbrella of MAHED, the Commission.* Otherwise different models of education will be operative and will create conflicting situations of class verses mass in education. This should be avoided; at least in its delivery of services to the people at large**.

Many alternative paths for tech-voc (technical and vocational) education with up-grade paths are available and can be organized through professional diplomas and degrees programs. For this, the education system should ensure:

1. *Choice and freedom to learners* for taking different types of courses in the areas of development during the first 2-3/4 years of UG education.
2. *The MAHED should ensure taking quality UG exams* for various courses and enable students to collect successful credits.
3. *Upgrade path to choose academic or professional degree or mix of the two* types of courses to choose course and programs that suits to the innate talents of each one.
4. *Ensure A3 and L3 learning by creating OR and wiki processes and organizations* through education and development processes.

These will ensure globalization and knowledge use in central, local and personal developmental processes. This also creates path for the social development through the socio-economic development through wealth creation and using it for social wealth or capital for the use of all learners.

Education for Sustainable Development Needs

Linking *learning programs with various development sectors integrally*, where jobs, employment and value creation opportunities are available is the main goal of the Social Developmental Education.

Academic streams can be managed with the well established Academic and Management Structures with full decentralization and devolution of authority to university campuses and colleges. The coordination function is to be carried out by the University. The composition of various bodies of the university will now have to have substantial participation from other professional streams so as to add social /national development. Obvious approach is to bring in not only educational experts (academia) but also professional experts and entrepreneurs with high expertise and experience.

1. The bodies such as Board of Management, Academic Council, and Board of Studies for various subjects and disciplines can be the main structures for the University with some modifications to take into account the two new functions essential for Connected Society.
2. These bodies can be added with *Schools for Developmental Studies*, which should focus on major research and development areas. The following areas are suggestive and not exhaustive:
    - Scientific and technological development
    - Socio-economic development and change
    - Culture and wealth creation processes based on ethics, values and social change

- Empowering and Developing creativity, innovation and entrepreneurship
- Producing and co-creating Social Common Wealth (Open Resources and Wiki-organizations) for economy of permanence

3. The areas of development of generic and specific nature that could be related to the domain knowledge are:
   - Industry
   - Health
   - Agriculture
   - Education
   - Technology and Professional services.
   - Marketing and Value Conversion (Financial and Social)
   - Institutional, Central Public & Local Civic Institutions /organizations and Voluntary Service sectors

Features of sustainability for educational and social development processes

Following are considered to be the main aspects:

1. **Permanent supply of resources of financial, academic, technological nature** and continuous up gradations of tools and technologies are essential for progress and their sustainability.
2. **Use of partnerships** with PP (Public-Private), PC (Public- Community or Private-Community) and PPC (Public-Private-Community) partnerships for creating resources and their efficient and creative use in value creation and in empowerment processes.
3. **Development of partnership** models for productivity of industry /work by creating social **business/industry enterprises (**Prof Mohammad Yunus model) and using work opportunities to
   - Eliminate poverty and
   - Promote and nurture culture of innovation
   - Share the social wealth
   - Care for colleagues/ customers/Users

The Commission (MAHED) is expected to ensure the support resources to all the universities and colleges and lay down policies for universities in relation to essential resources. It is the duty of each university to use the policies to obtain resources from the State funding, social welfare grants for student's learning and creating universities' own resources for enterprises as learning places (Production learning, Service learning). The profits accrued from such enterprises go partly to university development and operations and remaining profits go to the social commons / wealth to be used to remove poverty from Maharashtra. All these activities should be in relation to the social developmental education and persons should work within the framework set by the Commission and work in autonomous and self-governing way.

Development is taken here in a localized sense to address the problems of linkages of it with value and wealth (money and other wealth) creation.

Sustainability is ensured through partnerships and consortia to evolve social developmental education models in which supporting resources and processes of empowerment are woven around:

- Open Resources Creation and utilisation
- Access to e-Platform and multi-skill training
- Promotion and participation in social organization and empowering processes
- Earning and wealth creating processes
- Establishing partnerships and consortia of global and regional/local nature

Becoming autonomous and self-supporting by remaining society dependent should be the approach of the university in the Networked Society. Due to social disparities and disadvantages, some universities having such disadvantaged students in large numbers will not be able to become self-supporting. However, the policies could be so formulated that all universities can come up on the common platform and offer equality of opportunity to all students by sharing social wealth / commons and offering micro credits on the basis of the collected social resources/wealth. Observance of openness, transparency and accountability is the right approach in all such transactions.

Some policy suggestions emerge:

1. *Unit cost based fees*: Tuition fees should be fixed on the basis of the real costs required to educate student. University should charge such fees to all students.
2. *Individual Tuition Fee Subsidy* should be directly paid in the student's account: Depending on social strata and category, a student should receive fees from social welfare departments in his/her bank account. Money can be transacted only by cheque to the educational institution for the purpose for which it is given. (e-Banking)
3. *Educational Soft loans* for paying tuition fees: Students who do not get such subsidies should be given soft loan from the Funds created specially. Student should pay it back once s/he gets employed.
4. A *Learn-Develop-Earn (LEDE) Program* should be developed in every university and college for disadvantaged learners by involving them in the development / production/service programs for obtaining support for learning as well as for production/service learning. Since they are learning programs, the work should have credit points to be counted in the degree requirements.

MAHED and Universities should be empowered to establish Social Business Companies and Production Companies / Centers for social development, for creating commons and for becoming self-supporting. Social Business and Production Centers for social development are the part of the learning which links education with values creation and for social transformative value creation system.

Management of Affiliating Universities in Maharashtra

Additional two functions (social development and self-governance with autonomy) are to be included in the university authorities and bodies that enable to carry out many of the new functions that are now introduced in the A3 connected society for their L3. Further the creation of the State level Commission (MAHED) with delegated authority and its e-Platform creation is changing all the future scenario for policies and operations of the university system.

The issues arising out of the Committee (3) recommendations for the top structure have been discussed with the Chairman of the Committee (2) for evolving common central structure.

When e-platform based open learning channels are getting available with global open resources, the university functions change radically.

We note here that only the additional functions arising out of the new two basic functions of the networked university namely knowledge application to development and self-governance with autonomy are considered. Recommendations pertain to new processes:

1. Linkages of learning with social and technology development
2. Linkage of learning with creation of value/wealth for self and society
3. Participation in networked social connections of global and local nature and its empowering aspects
4. Participation in wiki processes and organizations for creating social commons
5. Learning linked with Learner's L3 and development paths with personal goals linked with futures

The processes are very strongly ingrained in Indian value system and social organizational principals incorporated in the Indian Constitution.

<table>
<tr><th colspan="2">Traditional Structure of University</th><th colspan="2">Structure of New University</th></tr>
<tr><th>Authorities</th><th>Officers</th><th>Authorities</th><th>Officers</th></tr>
<tr><td>Senate</td><td rowspan="10">Vice-Chancellor
Pro-Vice-Chancellors
Deans of Faculties
Registrar
Controller of Examinations
Director, BCUD
Librarian
Finance & Audit Officer
Director, Student Welfare</td><td>SOUL: Society University Partnership Council</td><td rowspan="10">Vice-Chancellor and CEO
Pro-Vice-Chancellors
Deans of Schools of Developmental Studies
Registrar
Director of Evaluations
Director of Planning and Techno-Social Change
Director for Learning Resources and Personalized Dissemination Services
Director for Finance, Investments and Wealth Creation
Director for Learner Autonomy and Empowerment including Welfare
Director for Networking and Academic Development
Director for Professional /Vocational Education and Employment
Director for Performance Excellence & Affiliation</td></tr>
<tr><td>Board of Management</td><td>Board of Management</td></tr>
<tr><td>Academic Council</td><td>Academic and Development Council</td></tr>
<tr><td>Faculties</td><td>Planning Board for Techno-Social Transformation</td></tr>
<tr><td>Board of College and University Development</td><td>Schools of Developmental Studies</td></tr>
<tr><td>Board of University Teaching and Research</td><td>Board of University Education and Development</td></tr>
<tr><td>Boards of Studies</td><td>Board of Studies</td></tr>
<tr><td>Examination Board</td><td>Evaluation Board</td></tr>
<tr><td>Board of Adult and Continuing Education and Extension Services</td><td rowspan="2">Board of Open Resources and Social Empowerment</td></tr>
<tr><td>Student Council</td></tr>
</table>

University authorities and officers have the responsibility of maintaining autonomy and self-reliance, and should relate with MAHED and other Universities in the State and outside including foreign institutions for raising quality and performance excellence of their students, teachers and institutions.

University Operations are proposed to be organised at TWO stages:

- **For PG and Research,** operations should be the main concern of the university at the creativity and innovation levels. They are to be supported by University authorities and officers. At higher level, only institutions with research programs can participate in university bodies /authorities at this level.
- **For UG Operations**, a separate set of bodies are to be setup. The authorities should have a linkage mechanism through adoption of some members from the other stage.

University having campuses and working with Affiliating Colleges:

In order to create relevance to employment and livelihood generation for students, affiliating colleges and the Associate Professional Colleges will create technology and training resource centers with provisions like:

- Finishing and placement schools
- MIT FabLab type facilities
- Central facility for technology based simulations and modelling
- Guidance cell for infusing knowledge and technology richness in the product and service development
- Facilitations for Earn and Learn through social/industry development or production work linked with socio-economic progress through tiny enterprises

These facilitations at the +2 years of higher education will create wider base for applicable education for livelihood creation. These Associate Professional Colleges will also work with consortia of colleges and open stream students for vocationalisation of their education.

All those who cannot be admitted in the nearby colleges or campuses should get admitted in Open Learn stream. The goal should be to double the enrolment within the next five-ten years. (GER more that 25 from existing 18)

University bodies will be essentially working with autonomous university campuses and autonomous colleges, and together they will see that quality education is given to all students.

The affiliated colleges will be guided by the Academic and Development Council. The University bodies will help each college to move up along its development path till it become autonomous.

Reorganization of University structure for Learning FROM Development

It is done by adding the concept of Schools of Developmental Studies instead of faculties. The role of a faculty is often considered redundant except its Dean. Different models of reorganizations were proposed for various purposes. The Schools of Studies were proposed to encourage interdisciplinary and multi-disciplinary studies directed towards development achievement. We are now proposing Schools of Developmental Studies for inducting development as an integral part of learning and its use for self and social development. This was the aspiration of the Education Commission Report when it named its report as Education and National Development.

Our proposal is to reorganize the existing structure, which promotes professional class formation as the only channel of promotion. Structure should be reorganized under the five-six areas of developmental studies given above. Related departments will go under the related School. This is to ensure that development, particularly social development becomes integral part of the New Education.

Since our focus was on the development of the New Education System appropriate for the New Age Society of 21st Century and A3 Connectedness, we have not done this university structure exercise in detail. This may have to be undertaken as a separate activity.

The details of the bodies and their powers, duties and composition could be developed by the other Committee (2) on Act 2010 by keeping in view the activities and objects of learning and development.

Immediate Subdivision of Big City Universities

Large Universities (Mumbai, Pune and Nagpur) will immediately have:

- Main Campus and Regional Campuses at Suburb / District Places
- Main University Campus functions with all central bodies and authorities
- The basis is not on numbers but the need of quality education both for PG and UG courses. We may recommend forming Sub-Campuses at the undeveloped district places and create Campus facilities with quality education.
- Follow policy of large campuses with large Research, PG and UG facilities. Structure is Main Campus and Sub-Campuses district-wise. Main University carries all the authority and sub-Campuses will have delegated authorities for efficient functioning and raising quality and relevance for learning, development and social transformation.

All the Affiliating Universities should follow the path of creating district campuses and widen their roles and quality education by establishing university campuses so that quality education could be offered to the learners from their jurisdiction.

CHAPTER 7 - Implementation of Reports

Introduction

The three committees, set-up by the Department of H&T Education, Government of Maharashtra, have worked together and are submitting their reports. The Main Committee has all the general policies and approaches for the development of the Higher Education System in Maharashtra appropriate for the New Age connected society. The Committee-2 (Com-2) has formulated top end university structure for creating New Maharashtra Universities Act 2011. The Committee-3 has considered the new global connectedness, the paradigm shift in education to fulfil the requirements of small autonomous units of universities and colleges essential for linking education with livelihood and social development. All the three committees have common approach for Central Structure along with their distinctive identity in approaches.

The Committee-3 report gives the linkages of education and social development and, in brief, the causes and consequences of globalization, difficulties and opportunities in student employment and growth, and ways of ICT enabled opportunities for ensuing equality and justice. This last chapter of the report gives the implementation approach for successful introduction of the New Education system for the A3 connected L3 Society. (Anywhere, Anytime, Anyone connected Life-Long-Learning Society).

Implementation should start from NOW and should first create the Central Structures of Maharashtra State Commission for Higher Education and Development (MAHED).

The report and recommendations are directed towards development of the Innovation Eco-system (I-Eco-system) and e-Platform infrastructure on which various mechanisms and methodologies promoting autonomous and socially dependent education system will be evolved in co-operation with universities, colleges, teachers and students. The goal is to support autonomous ways of learning, developing and transforming (**Social Developmental Education**). In fact, we are creating a **system of education for social transformation** in a globalised context.

The New Act for the Maharashtra Universities should have structure as given below to promote global-local nature of the education system.

Integrated View of the Maharashtra Universities Act 2011

In a globally connected society, a university will need different structure that combines global requirements of higher education as well as its local or regional relevance for the development of the students and society around. We propose the following:

1. **The Maharashtra Universities Act (MUA) 2011** - General Structure

   The Act should contain goals, policies-powers and core functions and processes; and should be divided into two parts:

   Part A: Maharashtra Universities Central Support Service Structure – Advisory and Supportive

   Part B: University Structure of an Autonomous Institution working in partnership with other universities in the State

2. **Schedule 1**: Objects of the University

   This should contain the objects of the University in the A3 Connected Society that includes both autonomous as well as its cooperative and partnership functions. It should also state the goals in relation to the State Government, industry and society for social development and change.

3. **Schedule 2**: First Statutes of the Maharashtra Universities dealing with central '*support services'*.

4. **Schedule 3**: First Statutes of the University

The structure suggested is more like YCMOU Act made appropriate for the general Public Universities working in collective in the State for its 21st century connected society functions. Some of the Central University Acts are also on these lines. The proposed structure will support well the Central-Local or Global-Local model of education for the A3 connected society.

Objects of the University

Objects of the university in the connected society will be obviously different. In the connected society, besides the face-to-face learning, the learners can learn from on-platform services. Two new functions of the university in a connected society have been added to the traditional functions of the university (creation, preservation and dissemination of knowledge), namely

- *Social Development:* Application of knowledge or Socio-Technological Development, and
- *Autonomous self-governance:* Self-organisation and governance of the learners and their groups and communities in the L3 society.

Objects of the University should, among others, include:

- Central-Local model of education to bring all the best and quality global educational resources, static as well as dynamic, to every student in Maharashtra in his/her A3 situation.
- Create A3 connected network with the use of latest communication technologies to connect all learners - students, teachers and provider institutions - so as to offer multiple opportunities of learning and developing.

- Centralised support system either independently or better jointly for all the support services in administration, evaluation/examination, affiliation, in interactivities of direct and virtual nature and in information analysis and feedback (analytics) to every autonomous learner and institution in a decentralised and mass-personalised / group customised way.
- Linkage of education with development as well as with wealth creation and social transformation.
- Creation of education system based on OER (Open Education Resources) of global quality and local relevance for offering multiple opportunities to learners for their social creativity, innovation and entrepreneurship.

This is a task falling under the jurisdiction of the Com-2 under the Chairmanship of Prof. Arun Nigavekar.

Starting Implementation with the Establishment of the MU Act 2011

The Comm-2 chaired by Prof. Arun Nigavekar has given quite detailed account of the Act for the Central Structure and we agree with it. It is in line with what is suggested by this Committee.

Creating MU Act 2011 at the central level (Part A and Schedule 2 of the Act) will require establishment of the top three bodies:

1. Apex Advisory cum Supervisory Council (AASC)
2. Maharashtra State Commission for Higher Education and Development (MAHED)
3. Academic and Development Council (ADC)

The composition of the **Board of Directors** of MAHED shall be as follows:

1. Chairman: Eminent educationist/professional with experience and expertise in his domain at national and global level and having achieved proven outcomes in his profession nominated by the Governor
2. President and CEO, MAHED
3. Director (Planning & Co-ordination)
4. Director (Finances & Resources Generation)
5. Director (Coordination of Evaluation & Examination Services)
6. Director (Quality & Excellence Assurances and Affiliation)
7. Director (Open Education and Empowerment Services)
8. Director (Networking & Support Services)
9. Director (Vocational Education and Employment)
10. MAHED Secretary who would work as Member Secretary of the Board of Directors.

The MAHED under its jurisdiction will establish the following support service divisions, each headed by the related Director.

1. Higher Education and Development Networking and Services (MS-EDUNET) under the Director (Networking and Support Services)
2. Division of Under Graduate (UG) Evaluation (UGE Division) under the Director (Coordination of Evaluation and Examination Services)
3. Quality & Excellence Assurance and Affiliation Council (QE Council) under the Director (Quality & Excellence Assurances and Affiliation).
4. Division of Vocational Studies with Distributed Centers (VS Division) under the Director (Vocational Education and Employment)
5. Open Resources and Empowerment Services (ORE Services) under the Director (Open Education and Empowerment Services)

Establishment of the Commission and the Council with all its directors should start the implementation of the New Act 2011.

Some of the bodies under MAHED, particularly offering services (MS-EDUNET, UGE Divisionn, QE Council and VS Division) could be established as autonomous institutions under the MUA 2011 with overview of MAHED.

The first and foremost task of MAHED is to establish I-Eco-System by creating digital framework for functioning of all autonomous units of the university and autonomous colleges. The I-Eco-System creates networking for all learners, teachers and provider institutions, learning resources and support services and creates policies and programs in partnership with universities and colleges through the Council.

With the I-Eco-System offering non-interfering but supportive resources, specialized and technological services, the universities and colleges can then concentrate on their core functions of teaching, learning, developing and value creation, change creating processes and give excellent performance results. Such a system can and should be used to promote self-guided and self-reliant ways of learning and developing for an individual, group, community and institutions. I-Eco-System also promotes paradigm shift in changing goals of education from simple acquisition of knowledge/information to the creativity, innovation and entrepreneurship of learners, their organization into learning and developing communities to create wealthy and empowered society.

Reconstruction of the University Structure

The existing structure of the university is discipline based and is not appropriate to include new functions of social development and self-governance with autonomy - so very essential for the networked society. Education and development through knowledge application and self and social development should be a part of every university structure for making university empowered to support life-long-learning and developing society.

This can be achieved by restructuring the existing top authorities as the Society Partnership Council (SOUL), Board of Management and Academic and Development Council. The faculties may be changed into Schools of Studies in:

- Scientific and technological development
- Socio-economic development and change
- Languages and Communication Development
- Arts and Cultural Development
- Marketing and Business Development
- Education and Socio-Economic Development
- Physical Education and Culture Development, etc

The areas are only suggestive and could be identified by the university depending on the focussed area of development of global and regional nature. Department of Studies (subject based) may be grouped under each area of development. Higher integration is at the level of Academic and Development Council.

Existing faculty grouping is to be kept notionally and its Deans could be elected/nominated/ appointed from the Chairmen of Boards of Subject Studies or from outside. This approach of removing faculty in the University Structure has been adopted in many University Acts.

The other Deans or Directors of Developmental Studies should have higher role in organising education and development in the University. Schools of Developmental Studies in the developmental areas should be replacing the faculty as an authority. Schools of Studies and Development will promote application of knowledge to socio-economic and technological studies as an integrating body with higher integration and inter or multi disciplinary or development centric approach is brought in at the Academic and Development Council.

Every Autonomous College including affiliated college should have small number of bodies such as the Management Advisory Council, the Executive Committee, the Academic Committee and SOUL to establish linkages of academia with society and industry. The top essential bodies should be included in the appropriate Schedules with first statues. The other statues can be developed as and when necessary by each university. Over structurisation should be avoided to allow changes as essential for learning and developing society based on knowledge economy and culture.

University and Affiliating Colleges

University system of education was started in India with affiliating colleges, and the University initially was simply an examining body. Now the affiliating colleges are carrying out major educational role at the undergraduate (UG) and post graduate (PG) levels. Out of total 3258 colleges in Maharashtra, there are 2182 colleges of general nature for arts, science and commerce. Twenty-one lakh students study at UG and PG levels. Nearly all students are in affiliated colleges, and about 85% post-graduate students study in colleges. Due to rising social aspirations and hope of getting better jobs and employment, students do take degrees of various universities or in different faculties. Establishing a college in a locality is considered to be a social work and carries a prestige. In case of creamy courses, colleges do obtain some economic benefits as well as credit of institution building. Hence the affiliating college system, besides contribution to the social development, brings in socio-economic and political pressures on the university functions and its autonomy.

The system with heterogeneity of levels and standards can make any change and reform difficult and the pull is more for equalisation at the lower levels. This has harmed the development of the UG education. We therefore propose that:

- University campuses already established and to be established in each district should have UG, PG education, and research and development as their main function. The campuses should have autonomy and responsibility to raise the quality and standards of UG and PG teaching not only up to the national but international standards.
- Affiliating colleges will get affiliation by following the procedures for which services for local enquiry committees are usually used, which are formed by following the rules and regulations laid down by the University. They carry out the inspection and report to the University. These services are to be provided by the QE Council and the reports are to be considered and approved by the University concerned. The advantage is of highly accountable and transparent services of the QE Council supported by its networked information gathering, openness and accountability used in such services.
- Each affiliated college follows a path of becoming autonomous college within a fixed time-frame of five years or so as suggested by the Com - 2 (Prof Arun Nigavekar Committee). The Development Path is:

  Affiliated College → **College with potential** (Higher NAAC grade-B+ and above) → **Autonomous College** (Colleges with A grade) → **College with Empowerment** for adding and awarding diploma and degree programs.

Participation in the colleges of autonomous and affiliated colleges in the University bodies is organised in such a way that it does not bring in social and economic pressures and influence the lowering of academic quality and standards.

The I-Eco-System and Maharashtra Universities state-wide network and e-Platform with Support Services will offer all the essential services to every college that will enable them to rise in their levels of college development. All the information related to the top bodies, their policies, programs and actions will be seen on their websites so as to be accountable to public as required by the RTI (Right To Information Act).

Immediate Subdivision of Big City Universities

It is recommended that Large Universities (Mumbai, Pune and Nagpur) will immediately have:

- Main campus and Sub-campuses at Suburb and District Places
- The existing and new campuses created as autonomous campuses and will have added undergraduate education programs as a part of the academic activity linked with PG Education, Research and Development programs.
- Main University campus functions with all the central bodies and authorities as in the University Act for promotion, coordination and quality assurance of all the campuses of the University and its affiliated colleges.
- The basis of sub-division of universities is not only based on number of colleges and students but also the need of quality and relevance of higher education both for PG and UG courses, and is strongly linked with socio-economic development of the district/region. We may recommend forming sub-campuses at the undeveloped district places and create campus facilities for relevance and quality education.
- University follows a policy of creating large campuses with up to-date Research, PG and UG facilities. Main university bodies carry all the authority; and sub-campuses will have delegated autonomy with authorities and officers for efficient functioning, raising quality and relevance of higher education in their learning, developing and social transformation processes.

All the Affiliating Universities should follow the path of creating district campuses and widen their roles and quality of education by establishing university campuses so that quality education could be offered to the learners from their jurisdiction.

In spite of these efforts, the University Campuses will not be able to cover more than 10-15 % of total under graduate students. Similar will be the case for graduate courses and research functions. It is therefore proposed to have **Open Learn Programs** in which every student depending on his/her choice, offers some courses from any other university in the Maharashtra State. Open Learn stream is offered by the University Campuses and Colleges under the supervision of the ORE Services under MAHED. It will be essential to integrate the open education facilities of YCM Open University and Distance Education Institutions of Dual Mode Universities in Maharashtra on the common basis with university-wise focus and identity of their services in course offerings essential for socio-economic development of Maharashtra.

Establishing New and Special Purpose Universities in Maharashtra

It is usually a social and political credit to establish a university in one's own region or for some specific purpose. University is a reform institution of creation and dissemination of knowledge as well as a window to the world for the benefit of the people around, and hence it is a big change institution. We have received demands communicated to us by the Department of H & T Education related to establishment of a Tribal University at Nandurbar district and a Muslim University in Maharashtra. These issues do not pertain to our terms of reference and hence we are not considering them.

The University District Campuses created in each affiliating district by a public university, and run as an autonomous unit of the University, becomes a potential place for the new university. However, instead of following 20th century practices, we propose that a new approach be followed for creating a new university. Firstly, the district university campus should:

- Be completely functional and autonomous
- Raise its quality and excellence of its educational offerings to the high levels of national and international standards

The campus could then be considered for up gradation into a new university, if it carries any meaningful distinct identity in the socio-economic development of the region. The university campus concerned can be given special functions for the locality development and enough resources as are essential for the special role given.

However, it should be noted that in the emerging connected knowledge society, separate and isolated existence of a university as in the 19-20th century models of education is now doubtful.

Educating Students and Teachers

ICT Literacy and Learning and Developing in Connected Society

In the transitional stage, from industrial society education through isolated and decentralised institutions to the A3 connected L3 society, the education is becoming techno-social in nature. Every learner in 21st century society should have ICT literacy and functionality in using mobile, lap-top/tablet computers and internet based communication for various learning, working individually and in a group, teaching, researching, organising, social networking and self-managing functions. This 'Developmental Learning Literacy' of connected society is essential for learning and teaching of educational courses; and should be offered by MAHED to all. MKCL has already educated 6 million people through its MSCIT course. Now the new-gen students are getting IT savvy right from their childhood and during school education, and they use information technology gadgets very efficiently.

A Training Center for teachers and students should be established by each university and college in partnership with ICT training provider agencies. These centers should train to:

- Use communication technologies for networked learning and working
- Use ICT in self and collective expression and organisation, social networking and developing
- Form virtual groups
- Use of e-Portfolio in evaluation and education

ICT education is essentially in using tools and techniques for learning, developing, value creating and transforming.

Evaluation Boards and Formative and Summative Examinations

Due to A3 connectedness, it has become possible for a service provider to offer education, guidance and formative and summative evaluation to any student anywhere. Every classroom or at least one in the beginning in a college or university department could be created as a distributed classroom for the synchronous participation of students in classroom based education. Asynchronous students to attend such a class and listen to the lectures delivered from website and OER. These could be made available to any student in Maharashtra by giving access to the website or home page of the course on the MS-EDUNET.

Student's study and formative process is the most important in the educational development. In fact, it is the key aspect in education to know how student studies and arrives at the result. It will be superior quality education if we can provide this formative support to a student in his process of learning, and help him/her to improved and upgraded learning. '*Learning to learn*' is the most important aspect in education to become self-reliant in learning and developing. The paradigm shift is ***from*** the content and teacher centric approach of education ***to*** the learner, learning and development centric approach of education. This is a major paradigm shift in education obtained by the change in learning obtained out of the process-result based education. This can be made possible for the students if the teachers use e-gadgets, networks and global knowledge resources in the A3 Connected Society by using constructivist learning.

A new system can be evolved and enriched by studying the throughput process based on the study carried out by the student and reported on the network. Experience shows that the young generation can acquire and master these skills very fast and become net savvy. Rural youth can also do it if policy of giving access and MS-EDUNET services reach to them. This is also the precondition for creating I-Eco-System for Maharashtra. The paradigm shift is to focus on process-result based study; and, in terms of evaluation, focus is on both formative and summative results of all courses. Whenever student uses networking for doing or reporting study, his/her record gets created automatically in the personal e-portfolio. Such a record is of formative processes and can be used effectively for the study process of a student. Creation of networked e-portfolio, therefore, becomes essential and networks should support it and help in the formative evaluation processes. The e-Portfolio is therefore an important developmental tool for student's study process.

MAHED will create such a division or board, called UG Division, better in the form of UG Evaluation Board, which will:

- Create the backbone framework for all the formative and summative services
- Prepare and offer evaluation resources
- Offer academic formative and summative services to all students from the under-graduate colleges and universities

This is a gigantic task and collectively and cooperatively the teachers can prepare evaluation resources and use it for evaluation processes. The evaluation resources useful to students and teachers can be developed (Question and Evaluation Banks), made a part of OER and used for formative as well as summative evaluation. Under the broad principles, guidelines and evaluation framework, many service providers can offer such customised services to autonomous colleges and universities. On-line and on-demand evaluation can be made a reality. The evaluation

technologies are already available and could be used immediately. UG Division will have the responsibility to:

- Coordinate between Boards and Universities/Colleges.
- Maintain standards and quality of examinations
- Offer feedback analysis to all concerned institutions and their students for their further improvement and progress

The Committee-3 has therefore recommended a state-wide board and its four regional boards for promoting UG level evaluation with a view to equalisation of standards amongst the universities and colleges. Each regional examination board will offer exams by taking into account the syllabi of each university. The boards may employ many service providers in consultation with university /colleges for personalised and systemic services in formative and summative evaluations. Equivalence of curricula of different universities /autonomous colleges and examinations will have to be established under the guidance of MAHED and its UG Division in partnership with universities.

It should be noted that the examinations covered here are only for capacity building or knowledge and skill testing. *Capability* and *Co-creativity* building aspects are to be examined by the teachers and institutions-colleges, university campuses and consortia of colleges. I-Eco-System, MS-EDUNET and e-Personal Portfolio are the mechanisms that can maintain transparency, integrity and accountability of students as well as of teachers. Student's certification is to be decided by each university / autonomous campus /colleges. The QE Council can help in quality assurance and enhancement of standards in education by linking itself with the local IQAC (Internal Quality Assurance Cell) in colleges and university.

Inclusion, Equality and Justice in Higher Education in Maharashtra

I-Eco-System, with mechanism of Trans-Platform (e-Platform) of MS-EDUNET reaching every student-teacher-provider institution, and a global–local model of education are being used to create OER that will support all in their learning and development processes. OER is to be created as a part of teacher's duty to the learners, who are in the class as well as outside, studying for one or another course. This creates course-based resources and Open Resource Based Education. It is made available to all wherever I-Eco-System services reach.

I-Eco-System will also, in cooperation with university and college teachers, experts from society as also the others from India and abroad, create virtual environment of learning on the platform. It would consist of activities and opportunities for working together that will give continuous opportunities to students from anywhere for their creativity and innovation. This offers multiple opportunities to form real and virtual groups that will work together and do cooperative learning and developing. With value based organisation and self-governance and common interest motivating goals, the groups and pariwar can be formed and their work outputs would lead to creation of wealth and progress. The outcome is obviously value and wealth creation and could be shared by the members of the group who created it with win-win approach. When a large number participates as in mass-collaborative wiki processes, the wealth creation is social wealth or social commons. This social wealth could be of different types, useful for learning and development in life and work, and can be shared as Open Resources with all. All these processes

are based on creating social groups and organizations, and offering them multiple opportunities of working and creating and sharing. This approach has now become a reality and is being created with creativity and generosity of the educated and cultured people, who share their creativity and wealth with masses and people across the world. This is a new culture of connected society getting created and is useful to the creativity and progress of the society.

The groups and communities creating such commons are not bound by political or socio-cultural or geographic limitations. Globalisation thus offers sharing and creative culture for social enrichment and empowerment. Globalisation also enables to share global common wealth created by all with all. This can form the basis for a new society based on equality and justice. For the creation of social commons and their benefits for each one, there are many serious dangers coming up globally as well as locally due to virtualisation of identity (taking avatars), getting swept by the selfish and deceptive forces from unknown corners etc. Hence the young generation has to be educated and nurtured in the core value system of the Indian Constitution. The education of the future must provide the scaffolds to the learners and their groups that make a student thinking and independent decision maker in the new and unknown situations. The basic purpose of education changes from information and skill acquisition to the value creation and culture nurturing.

Application of knowledge to the local situation issues identified for development and learning obtained from that development by doing personal and group work can form the basis of linking education with socio-economic development. This leaning process when used appropriately gives learning not only for value /wealth creation but also for personal and group framework development based on values and practices student and group adopts. All these developmental activities should be ultimately directed towards social transformation - individual becoming a universal man and group creating small social unit in a situation worthy of living and working cooperatively and successfully. The access to the global resources created through generosity of the people, the connectedness useful to create scenario with definite goals related to the futures. The power of development and social transformation is dependent on the nature and technological strengths of the transformative platform being created; and is dependent on having enough knowledge and technology resources and support services for learning and development useful for each and every one. The learning environment and the culture of value based practices for sharing and caring creates a new society worthy for living with security and creativity. This e-Platform forms the ground for equality based playing field for all the learners. With right kind of policies for access to connectivity and resources and appropriate support systems, a student from anywhere can have equal and justifiable opportunity for development, growth, progress and pleasure. These will also eliminate the differences of rural-urban, rich-poor differentials and pave the way for equal and just society.

The post-modern State and civil society of today has the responsibility to ensure this equality of opportunity for learning, development, creativity and cultural transformation in the 21st century society. The role of the State is very important. It is the responsibility of the State to keep the learning and developing groups and communities free to work and develop autonomously; free from selfish and exploitative forces that capture and use any opportunity to use it for garnering political, economic and knowledge powers to create personal or family/company financial and physical wealth at the cost of social good and sustainability. This is called the tragedy of commons. It is the need of the 21st century for its A3 connected society to evolve models of social business and social industry / productivity that ensures social equality and justice. Ensuring and restoring this new-liberation to the citizens of the young generations in the existing environment of exploitative and selfish forces, is the key role of the State and finding newer models of working

and creating development, industry and prosperity by using PPC-Partnership (PPC- Public-Private-Community) is the key role of the Education System.

The Central mechanisms created by the State, with its delegated authority, needs to ensure the autonomy given in New Education for A3 connected society to the learner and his/her learning and development, the autonomy of the education institutions for their autonomous self-governance with transparency and accountability. MAHED and its Trans-Platform plays an important role in ensuring the autonomy of the learner, learning groups and institutions/organisations working and supporting work of creating futures for every learner as well as for the groups, communities and society. Promoting the efforts of MAHED with complete freedom is the important role of the State. Its participation in social development has been ensured in the structure and composition of the MAHED in AASC.

Following major policy decisions are recommended to ensure equality and justice:

1. Give connectivity access and its free use to the backward regions and disadvantaged people on priority basis. (Free and accountable access to internet)
2. Access to the e-Platform should be ensured first to the backward region.
3. Quality support of learning services should be ensured to the students of the poor and rural sections of society.
4. Subsidy given directly or indirectly be deposited in the personal bank account and its accountable use is the responsibility of the learner, who demonstrates it through the use of documents and his/her performance success in the learning and development.

Ensuring A3 Connectedness helps in creating environment of inclusion of the disadvantaged people and democratisation of education and development. This will also help in finding new ways for the New Education system for the L3 Society to create inclusive knowledge economy and knowledge society based on equality and justice.

Financing HE Expansion and Development of University Campuses at District Places

It has been estimated that nearly Rs 4000 Cr (Rs 150 Cr per new university campus) will be required for the development of the 26 new university campuses in districts where Public University Campuses do not exist for now. The period of expansion will be more than 5 years and the exercise may start from now with the three big city universities from Mumbai, Pune and Nagpur.

Funding from the Department of H&T Education on regular basis will start the work of MAHED creating I-Eco-System with central structure consisting of the three bodies- the Apex Advisory cum Supervisory Council, the Commission with its Board of Directors and the Academic and Development Council.

Various ways have been suggested by the Main Committee as well as by Comm-2 in their reports for financing implementation of the three reports.

Internal Generation of Resources: We consider the generation of resources by MAHED divisions through the services offered in the examinations, in affiliations, in quality assurance and fees obtained from students from the Open Learn courses.

When privatization is accepted as a policy by the State, it is natural to expect that both the private and public institutions in Maharashtra should have the *same level playing field* in terms of fees for tuition and development. Equality and justice should be ensured by providing subsidy and soft loans to students directly.

Higher Education system, as developed in our reports, is linking education with socio-economic development, and creating job-ready students in many hard and soft skills for professional and technological applications. A student has an opportunity to work, to learn and earn his/her cost of education by working and creating wealth. Starting small enterprises, particularly in service sector in tiny industry sector and by applying knowledge and skills learnt to earn from socially useful and value creating work is a good program of learning through working and experience. Such activities should have academic credits. In such process we should promote Public-Private Partnerships (PPP) through private industry contribution from their Corporate Social Responsibility funds or contribution of Social Capital from big and medium industry with social development as their profits. The centres for vocational skill development and entrepreneurship promotion should be established through PPP and they may help students to earn and learn. We may create industry and PPP with win-win approach and invite big industries and/or their foundations to create and manage such training centers with finishing school approach for the benefits of all the industry. Such centers should fulfil the requirements of job-ready workers for their factory needs as well as of others.

Permanent supply of resources: financial, academic and technological

1. Central bodies of MAHED, namely MS-EDUNETS, UGE Division, QE Council, VS Division and ORE Services can create resources from their services. Corporate and professional culture can be used in the operations and the bodies should aim at achieving higher efficiency and productivity. (MKCL created by the State Government and Universities is a success story for creating wealth and using it for developing e-education and for avoiding digital divide in Maharashtra). Income generated by the service units of the Commission could be distributed to universities on the basis of their contribution of students and their participation in work of the bodies. Linking these service provider agencies with the public universities and colleges in Maharashtra either directly or jointly through selected service agencies is the major task of MAHED. The responsibility should be carried out in partnership with University and autonomous colleges. This will provide the way for networked services to be offered on I-Eco-System Platform along with reduction in administrative work so as to free the educational institutions from administration and management workload and enable them to do their core tasks - learning and developing.
2. Co-created social wealth can be converted into developmental funds for institutions and education system.
3. Public-Private, Public-Community and Private-Community partnerships could be established for resource generation by inventing various ways; and resources could be generated through tiny enterprises, or SME or big industries.
4. University Campuses and Professional Colleges can create incubation and facilitation centres to support creativity and innovation and can become resource generation centres for higher education development

Many other ways of creating resources could be found once the developmental goals and processes are known and become a part of development function of the education. University and Colleges should consider and find clear and attractive ways to create socio-economic development of the society. Principle should be '*Let Thousand Flowers Bloom*' - many social and economic models of developmental learning would help in approaching our socio-economic issues far more effectively.

Some Policy Recommendations

1. Every public university, affiliated college should be self-supporting in its operational costs
2. Unit cost based fees
3. Individual Tuition Fee Subsidy should be paid directly in the student's bank account
4. Educational soft loans for paying tuition fees and living charges
5. A Learn-Develop-Earn program with learning credits is to be developed in every university and college

New Age University in a New Age University Township

All the new university campuses could be created as a part of New Townships appropriate for the 21st century technologies and practices. (Refer to the Main Committee Report). The University should work with people for social development and partner with private industries with PPP and have a win-win model. Instead of promoting profit maximization, the model of socio-economic development based on the approaches of social business and social production model with social benefits is to be created and access to the poor and disadvantaged should be ensured on priority for their training in quality skill development. Wealth created may be shared by all concerned, and working and production processes of the enterprise should be well established.

A social developmental model to remove poverty and raise prosperity of the people and their locality should be the goal of the Social Developmental Education. Raising social, economic and cultural levels of the participants in the up-stream, the industry/factory workers and down-stream employees should be the goal of university's social developmental models.

Many corporate bodies these days are creating huge funding foundations for supporting and creating a new industrial and cultural society by supporting many social, health and educational programs, (for example, Tata, Wipro, Bill Gates Foundations, etc.) We may invite such foundations to be a partner in development of the University Township and New Age University based on autonomy and self-governance models with PPC Partnerships. The foundations can create and contribute social capital for the development of University Education and social change to help establish emerging Knowledge Economy and Knowledge Society.

University system has the challenge to evolve social developmental business / production models for the new age society formation, development, progress and prosperity.

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ENCLOSURE 1

Rationale for Radical Transformation in Objectives and Delivery System of Higher Education and Outline of the Enabling e-Platform for this New System

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New Paradigm of Connected Society

The socio-sphere characterized by the social perceptions, thinking, social actions of communities and their value systems in the globally emerging knowledge-based society is being predominantly influenced by its new techno-sphere.

In this new socio-sphere of the emerging digitally connected society, the processes of generation of new actionable knowledge, its preservation, its integration with the traditional knowledge and wisdom, its dissemination and above all its novel application for socio-economic transformation are predominantly ICT-enabled or ICT-driven. They are influenced by the four megatrends viz. Digitization, Virtualization, Mobilization and Personalization. Unlike the ones in the last century, they are highly collaborative, co-creative, participative, self- correcting, self-improving and self-organizing, borderless, globally distributed, asynchronous, rapid, dynamic, open and egalitarian.

The socio-sphere enabled by highly accessible browsers, powerful search engines and extraordinary social networking tools is resulting into extraordinary collective achievements and social actions of seemingly ordinary and so far isolated individuals spread over the diverse geographies on our planet. This extraordinary performance of ordinary people is in fact because of the extraordinary power of ICT which is emerging as a large-scale enabler, quality enhancer, efficiency booster, economizer, accelerator, equalizer and mass-personalizer.

These social collaborative endeavours are likely to gain even greater momentum in the next decade with the probable advent of ubiquitous and distributed nano-sensors communicating through wireless networks, nanotechnology applications, peta-flop computing power in widely available and affordable desktops and laptops, global data warehouses, extraordinary tools such as personal genomics, extreme bandwidth networks and non-human-like intelligence-based novel applications such as partially perfect but real-time language translation services to be provided by telecom companies, etc.

Human civilization of 21st century is thus set to synthesize a global brain and trying to rapidly find out knowledge-based solutions to its problems of survival, development and empowerment.

Our 21st century Higher Education System cannot afford to remain isolated from this new mainstream social process of knowledge creation, preservation and dissemination and problem solving. Unless this new socio-sphere is consciously propagated in our colleges and Universities in core educational delivery processes, our students may remain severely ill-equipped to fulfil their obligations in life in general and at the work-places in particular.

Burning Problems in India

While this exciting scenario is unfolding on one hand in the form of socially co-created knowledge-based innovations, India is, however, facing daunting challenges of chronic and burning problems. A new, responsive system of higher education with socio-economic development orientation alone can cultivate leadership to face the challenge of solving these burning problems optimally.

A large majority of Indians (80 cr out of 120 cr) are beset with many burning problems threatening their very survival. This huge mass of our underdeveloped population may soon assume the form of a ticking bomb. With rapid pace of globalization, the spread and severity of the challenge to their livelihood sustainability is growing rapidly over last two decades. Some of the widely recognized problems are enlisted in Enclosure 2.

The complexities of these problems are so high that there exists little ground to believe that we may be able to overcome many of these severe problems in a foreseeable future by resorting to traditional means and methods.

The Way Forward

Albert Einstein had remarked that, *the problems cannot be solved at the same level of awareness at which they are created*.

The gravity of these problems and urgency of their solutions demand a higher level of awareness through out-of-the-box thinking, fundamental breakthroughs and knowledge-based innovations. Such innovations may be developed and deployed by young minds that have to be carefully cultivated to search for their own inner strengths and creative potentials, to synthesize knowledge-based solutions with less or no material and energy inputs and deploy them successfully for enabling desired social transformation.

A novel synthesis of higher education system with a built-in developmental process for catalyzing the self-search of these young minds and nurturance of their creative potential for socio-economic transformation thus becomes highest priority of the Apex Thinkers and Policymakers of Higher Education. If higher education system continues to remain unresponsive to this critical social obligation, it will not only render itself irrelevant but also make India lose its historic opportunity to become a prosperous and peaceful nation with a developmental model worth emulating by the developing nations.

It is now increasingly appreciated that the imaginative, better, cheaper, faster and widely accessible solutions to such chronic problems will not arise from consistently failing traditional education systems and traditional approaches to governance based on limited common sense of non-expert politicians or administrators. In fact, it will require highly specialized as well as interdisciplinary knowledge inputs and expertise and collective intelligence of the commons. Hence nurturing such 'collaborating and creative commons' with socio-economic developmental orientation, should become the core mission of higher education institutions.

The new capabilities, methods, approaches, social networking tools, wiki processes and value system of the 21st century socio-sphere of the emerging digitally connected society have to therefore, become the mainstream paradigm of delivery of Higher Education in India for nurturing young talent capable of social co-creation of knowledge-based innovative transformations leading to a prosperous and peaceful nation.

Social Value and Wealth Creation (SVWC)

In order to implement this core mission of the Higher Education institutions, the students, teachers and educational campuses should be able to break their isolation and get creatively engaged in actual work processes in community around them, connect their theoretical knowledge to local practical situations, derive deeper, interdisciplinary and actionable knowledge and insight through work and apply that knowledge and insight to produce more wholesome work. This will nurture them to think global and act local. This regenerative upward spiralling process of starting from practice (and not from the book) then deriving theory out of practice and using the theory for a more profound practice is a much awaited reform in building relevance of higher education to life and work.

This will lead to a synthesis of contemporary model of Gandhiji's 'Nai Taleem'. It is in this new paradigm of work-centric and development-centric higher education (and **neither** the content-centric **nor** the exam-centric **nor** the teacher-centric **nor** the institution-centric higher education), the students and teachers shall not only be able to derive happiness, confidence, social belongingness and self-esteem but will also create social value and wealth for the communities with whom they connect in particular for the humanity in general. In addition, many students may develop life-skills, may find creative life-missions and meaningful careers for self actualization as well as social development.

In order to implement this new paradigm effectively, a **Social Value and Wealth Creation Framework** has to be created and seamlessly integrated with the system of Higher Education. Such a framework will bring together the educational institutions, tiny to large-scale agro-manufacturing and service sector enterprises, industries, R&D organizations, governmental and

non-governmental organizations working for socio-economic transformation for an enduring private-public-community partnership driven with a unity of purpose.

Under this new paradigm, all these organizations, apart from being production environments, shall also be treated as educational environments offering project opportunities and internship opportunities to thousands of students. The SVWC Framework may facilitate networking and coordination of all actors/stakeholders in the internship program.

The private, public or social enterprises and organizations in agriculture, industry and service sectors in dire need of human resource may get partial relief on no wage basis through these internships and shall improve their quality, profitability and sustainability in the global competitive context. The enterprises will be suitably oriented to participate in this framework and perform their developmental role. The students, on the other hand, shall get actual work experience and mentoring leading to skill development, experiential enrichment of interdisciplinary knowledge, value/wealth creation through application of knowledge, attitude formation, social sensitivity and career orientation.

The socially useful and productive outputs developed by the students through their participation in actual work processes may be abstracted by them and other actors using the knowledge management tools and social value creation process. Later they may be appropriately published in the form of open resources for development and empowerment by honouring the IPRs of the participating enterprises and organizations and by giving proper credits to the developers and mentors.

This framework shall also offer to the interns the global collaboration and experience sharing opportunities and eLearning resources on advanced knowledge and expertise and on global best practices related to the work domains of their internship so as to complement their work experience in local settings and at least partially remove the limitations of local situations and to expand the knowledge and opportunity horizons of the interns at the global level.

The interns shall attend the work places on full-time basis and may not be required to attend college as they must have already spent first one or two years at the college to prepare themselves in a few subject domains of their choice and the following:

- Language skills, IT skills, self-learning and life-long learning skills
- Mathematical skills, statistical skills, thinking skills, problem solving skills
- Understanding the self and self-management, personal effectiveness
- Physical, emotional, intellectual and spiritual positive health, stress management
- Soft skills, communication skills, interpersonal/social / collaboration skills
- Team spirit, group dynamics, caring and sharing
- Presentation skills, marketing skills, selling skills
- Leadership skills, entrepreneurial mindset
- Quality and excellence literacy
- Financial literacy
- Environmental literacy
- Case studies of innovations, innovators and change makers

- Intellectual Property Rights
- Workplace ethics
- Good citizenship, social sensitivity, purpose of education
- Challenges in socio-economic development
- Exposure to volunteering and social service
- Meaningful search of one's own life mission, etc.

During these formative years the profiling of the students may be made with the help of psychometric tools to identify their aptitudes, strengths, areas of improvement, personality traits, interests, attitudes, etc. so as to counsel them in choice of the internship work domain suitable to them.

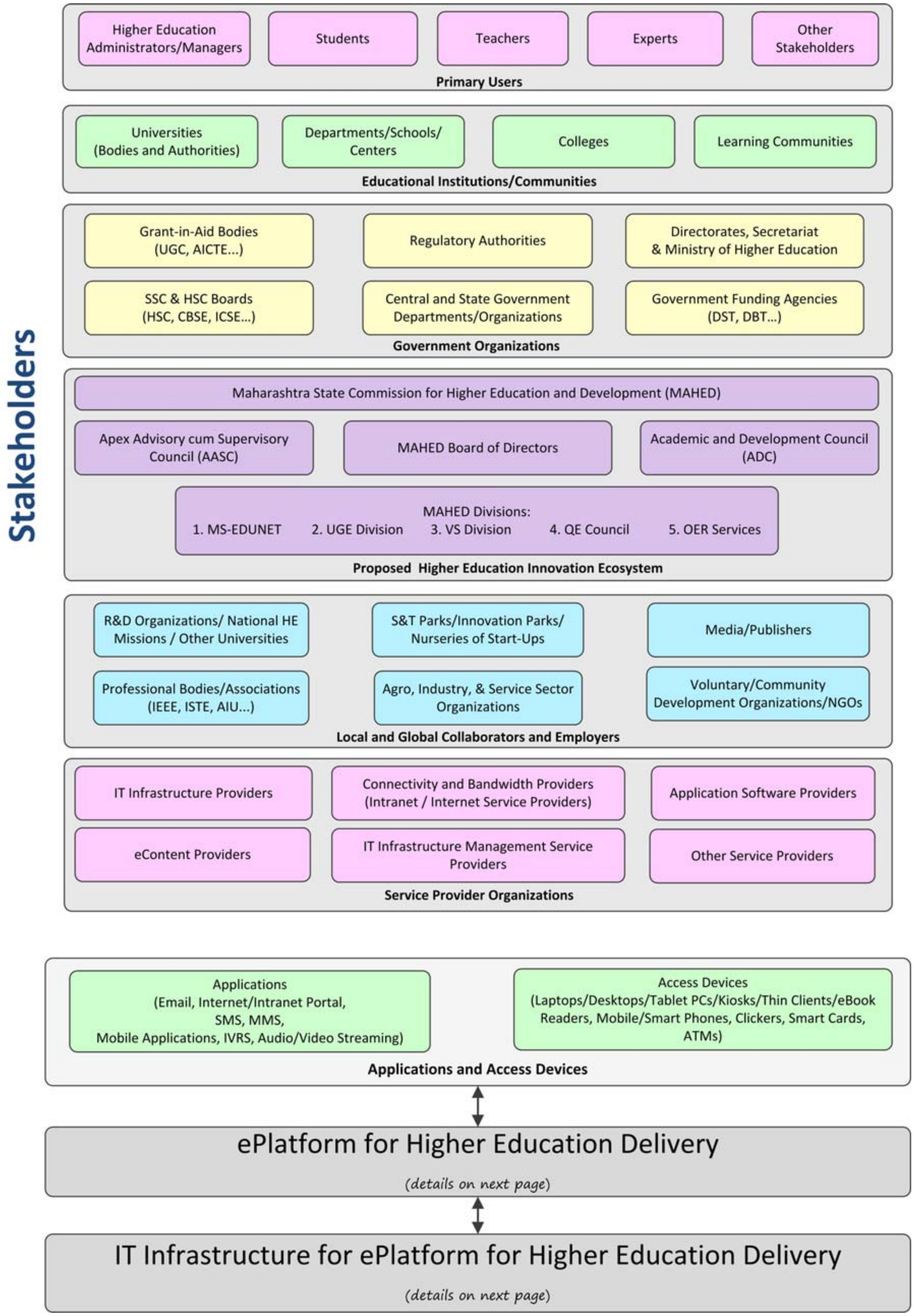
The interns may be continuously formally appraised by their peers and mentors at the work places and their formal knowledge may be assessed by the University through the periodic online formative and summative assessment tools. The Universities may then award Associate UG/PG Degrees to the students participating in social value and wealth creation based on mentor's appraisal records and assessment outputs.

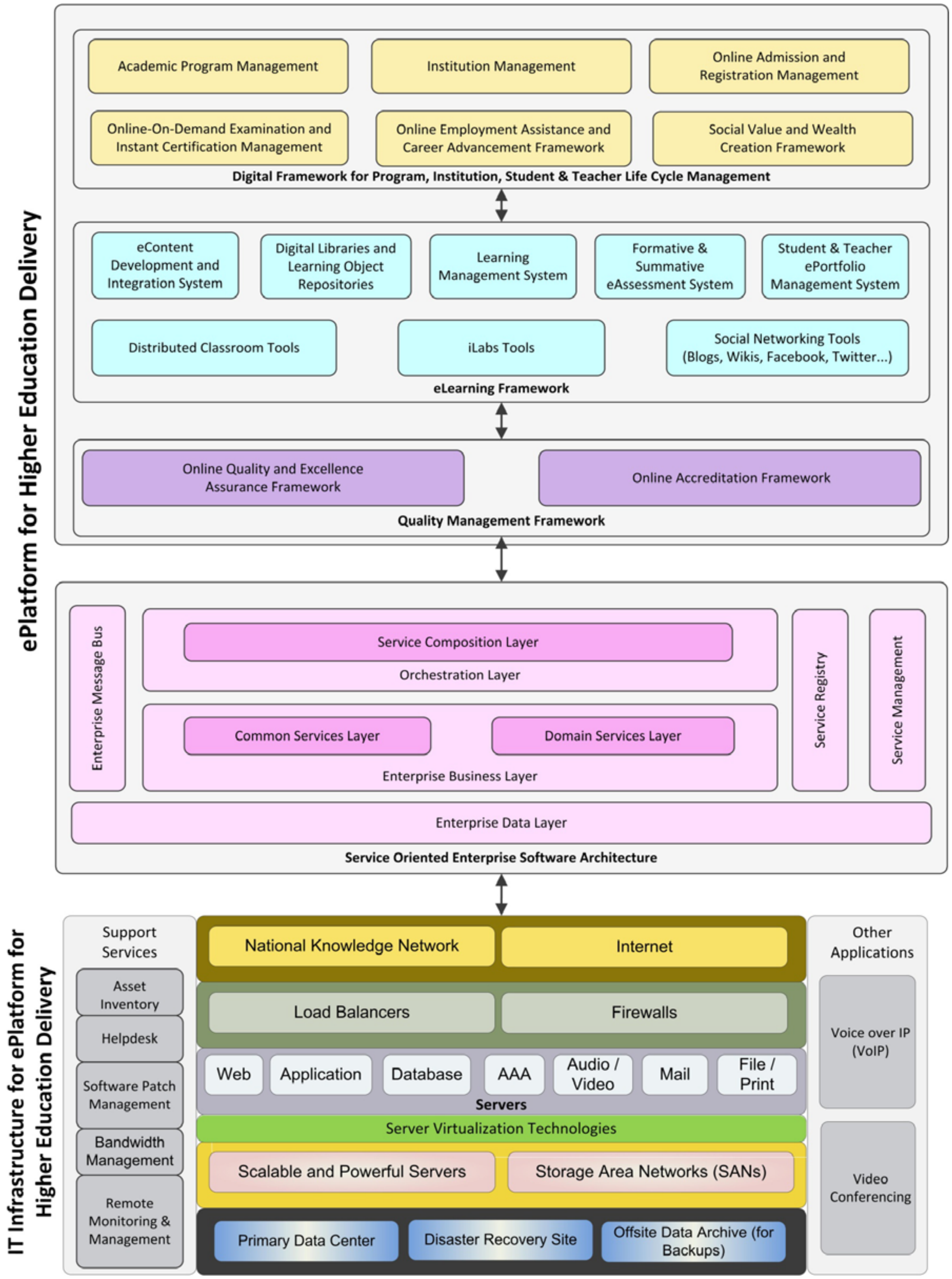
The enterprises may offer employment to the students in future and students may continue their participation in the SVWC framework even after the award of the degree and help or mentor the freshers and enterprises joining the framework in future.

Outline of IT Infrastructure and ePlatform

Such a transformative higher education system needs to be enabled by a state-of-the-art IT Infrastructure, and the ePlatform for the delivery of Higher Education and interactions and collaborations among various stakeholders.

The details of this IT Infrastructure and the platform are given in the Charts given below:


Stakeholders
Higher Education Administrators/Managers
Students
Teachers
Experts
Other Stakeholders
Primary Users
Universities (Bodies and Authorities)
Departments/Schools/ Centers
Colleges
Learning Communities
Educational Institutions/Communities
Grant-in-Aid Bodies (UGC, AICTE...)
Regulatory Authorities
Directorates, Secretariat & Ministry of Higher Education
SSC & HSC Boards (HSC, CBSE, ICSE...)
Central and State Government Departments/Organizations
Government Funding Agencies (DST, DBT...)
Government Organizations
Maharashtra State Commission for Higher Education and Development (MAHED)
Apex Advisory cum Supervisory Council (AASC)
MAHED Board of Directors
Academic and Development Council (ADC)
MAHED Divisions:
1. MS-EDUNET 2. UGE Division 3. VS Division 4. QE Council 5. OER Services
Proposed Higher Education Innovation Ecosystem
R&D Organizations/ National HE Missions / Other Universities
S&T Parks/Innovation Parks/ Nurseries of Start-Ups
Media/Publishers
Professional Bodies/Associations (IEEE, ISTE, AIU...)
Agro, Industry, & Service Sector Organizations
Voluntary/Community Development Organizations/NGOs
Local and Global Collaborators and Employers
IT Infrastructure Providers
Connectivity and Bandwidth Providers (Intranet / Internet Service Providers)
Application Software Providers
eContent Providers
IT Infrastructure Management Service Providers
Other Service Providers
Service Provider Organizations
Applications (Email, Internet/Intranet Portal, SMS, MMS, Mobile Applications, IVRS, Audio/Video Streaming)
Access Devices (Laptops/Desktops/Tablet PCs/Kiosks/Thin Clients/eBook Readers, Mobile/Smart Phones, Clickers, Smart Cards, ATMs)
Applications and Access Devices
ePlatform for Higher Education Delivery
(details on next page)
IT Infrastructure for ePlatform for Higher Education Delivery
(details on next page)


ePlatform for Higher Education Delivery
Academic Program Management
Institution Management
Online Admission and Registration Management
Online-On-Demand Examination and Instant Certification Management
Online Employment Assistance and Career Advancement Framework
Social Value and Wealth Creation Framework
Digital Framework for Program, Institution, Student & Teacher Life Cycle Management
eContent Development and Integration System
Digital Libraries and Learning Object Repositories
Learning Management System
Formative & Summative eAssessment System
Student & Teacher ePortfolio Management System
Distributed Classroom Tools
iLabs Tools
Social Networking Tools (Blogs, Wikis, Facebook, Twitter...)
eLearning Framework
Online Quality and Excellence Assurance Framework
Online Accreditation Framework
Quality Management Framework
Enterprise Message Bus
Service Composition Layer
Orchestration Layer
Common Services Layer
Domain Services Layer
Enterprise Business Layer
Service Registry
Service Management
Enterprise Data Layer
Service Oriented Enterprise Software Architecture
IT Infrastructure for ePlatform for Higher Education Delivery
Support Services
Asset Inventory
Helpdesk
Software Patch Management
Bandwidth Management
Remote Monitoring & Management
National Knowledge Network
Internet
Load Balancers
Firewalls
Web
Application
Database
AAA
Audio / Video
Mail
File / Print
Servers
Server Virtualization Technologies
Scalable and Powerful Servers
Storage Area Networks (SANs)
Primary Data Center
Disaster Recovery Site
Offsite Data Archive (for Backups)
Other Applications
Voice over IP (VoIP)
Video Conferencing

ENCLOSURE 2

Burning Problems of India at the Community Level and at the Global Level

Some of the Burning Problems of India at the Community Level:

- Abject Poverty
- Starvation
- Water Scarcity
- Fuel, Fodder and Energy Scarcity
- Shelter Scarcity
- Malnutrition
- Infant Mortality
- Extremely Unhygienic and Thickly Populated Habitats
- Air, Water and Soil Pollution
- Infectious Diseases
- Poor Access to Sanitation and Primary Healthcare Facilities
- Poor Access to Veterinary Facilities
- Illiteracy
- Poor Access to Quality Education and Vocational Education
- Lack of World-class Higher and Professional Education with socio-economic developmental orientation
- Poor Access to Actionable Knowledge Resources and Expertise
- Lack of Priority for Research on the Problems of Communities
- Lack of Priority for Development of Appropriate Technologies
- Disconnect of Scientists and Technologists with Communities
- Inadequate Last-mile Access to Communication
- Digital Divide leading to Knowledge Divide and Opportunity Divide
- Poor quality of last-mile Road Connectivity and Means of Transportation
- Extreme Disparities in Per Capita Incomes
- Regional Imbalances in Economic Growth
- Non-inclusive Economic Growth
- Poor Access to Financial capital and lack of Creditworthiness
- Poor Access to Markets
- Lack of Branding Ability
- Exploitation by the Intermediaries
- Landlessness or Unviable Small Land Holdings
- Declining Agricultural Productivity, Quality, Profitability and Sustainability

- Lack of Sustainable Livelihood Opportunities Complementary to Agriculture
- Threat of Extinction of Cottage Industry and Tiny, Micro and Small Enterprises under the pressure of Globalization
- Displacements and Forced Migration due to Famines, Floods, Mega-Projects, SEZs, …
- Unemployment / Un-employability
- Non-availability of dependable and skilled manpower especially for the unorganized sector
- Inequality of Opportunities- Opportunity Divide
- Extreme Uncertainties
- Intellectual Loneliness in Villages
- Frustration among the Rural Youth
- Suicides of Farmers
- Addiction
- Exploitation of Women and Children
- Disharmony, Social Divide
- Communal Unrest, Riots and Violence in Communities
- Insecurity, Terrorism, Naxalism
- Lack of Participative Democracy
- Lack of Good Governance / Good Local Self-Governance
- Widespread Corruption
- Slow, Costly and Complicated Judicial Processes
- Lack of Visionary and Trustworthy Leaderships with clear perception and a dream of desirable Future Society founded on social justice
- Lack of Change Makers for Social Transformation
- Lack of Unity for Community Development
- Lack of Drive for Collective Action against Injustice
- Shrinking Coverage in Media for the weaker sections
- Marginal Coverage in Art – Literature, Theatre, Films, …
- Lack of Freedom and Social Environment for Collective and
- Creative Pursuits, New Enterprises and Innovations
- Threat to Self-esteem

Some of the Burning Problems at the Global Level:

- Extreme Disparities in HDI and Attainment of MDGs
- Population Explosion
- Extreme Global Competition and Contention for Resources
- Erosion and Devastation of Natural Capital
- Declining Biodiversity
- Declining Life in Oceans
- Spread of Deserts
- Extreme Consumerism and Market Dominance
- Widespread Migrations
- Environmentally unsustainable Life-style of the Developed World
- Extreme Dependence on and Demand of Fossil Fuel
- Global Warming and Irreversible Climate Change
- Declining Tolerance and Growing Violence
- Fundamentalism, Extremism and Terrorism
- Nuclear, Chemical and Biological Weapons of Mass Destruction

ENCLOSURE 3

List of Various Services Offered by MKCL to Students, Colleges, and University through Digital University® Framework

‘e-Suvidha’ Services to Students through Digital University and Digital College® Frameworks

Informative Services to Students on Portal

1. About University
2. About University Organization Structure
3. About Courses and Colleges
4. About Admissions
5. Syllabi Download
6. About Scholarships and Government Schemes,
7. About Examinations and Results
8. Suggestion and complaints
9. Feed backs
10. News, Calendar and Events
11. Various alerts in student login

Administrative and Facilitation Service

1. Pre-printed prefilled Eligibility forms
2. ID card in college
3. Bona fide Certificate in college
4. Class Time Table in college 16 digits unique permanent Registration Number (PRN), personalized
5. Profile correction request

6. Profile update request
7. Change of subject
8. Online application for photocopy of answer-books
9. Online application for Re-evaluation
10. Online application for Re-verification
11. Online application for Duplicate statement of marks
12. Personalized Time Table download
13. Personalized Hall ticket download
14. Personalized prefilled Exam form download
15. SMS/Emails to students

Student Collaboration and Participative Services

1. Free eBook Downloads
2. Free and subject wise Video/ Audio Lectures
3. General information to students in login
4. Access to e Learning framework to students
5. Access to Online Examination System to students to facilitate e Learning
6. Information about other courses
7. Seminars through Distributed Classrooms
8. Student Facilitation Center and University
9. Information about vocational courses
10. Library Services - Online Public Access Catalogue (OPAC)
11. Library Services - Request Inter Library Loan
12. Request to issue a book
13. Request to issue a Journal/ Publication

Employment Assistance Services to Youth

Student Home

1. Inbox
2. Career Path
3. Question & Answers
4. Feedback
5. Chat
6. Ask a query
7. User settings

Employment

1. Search jobs
2. Earn and learn
3. Government jobs & Government schemes
4. Self Employment
5. Education and Job Fair
6. Resume builder

Other services

1. Educational Loan
2. Competitive Examination
3. Scholarships & fellowships (State, National and international)
4. Certificates
5. Awards
6. Advanced Studies in India and Abroad
7. EASY blog
8. Employer's Zone
9. Resume Search by Employer
10. Job setting by Job Seeker
11. Job alert mails and SMS to Job Seeker

Services to College through Digital College® Framework

Admission Reports

1. Monthly Attendance
2. Term Attendance
3. Yearly Attendance
4. Roll call Register
5. Photo Sign List
6. Birth Date Age Report
7. Native Place List
8. Guardian Occupation
9. Mailing Labels
10. Students PRN
11. Merit List
12. Uploaded Students
13. Not Uploaded Students
14. Export To Excel
15. Student Wise Papers
16. Roll-No Wise Students
17. User Wise Data Entry
18. General Register
19. Transferred Student
20. Inward Students Report
21. Non-Inward Students Report DU Pin List
22. eSuvidha Membership Card
23. Uploaded Students Statistics
24. Eligibility Status Report
25. Course Part Term wise Discrepancy Report

Statistical Reports

1. Faculty wise Category
2. Course Part wise Category
3. Gender Wise Blood Group
4. Course Part wise Student Strength
5. PRN Generated Status

6. Gender Wise Cast
7. Course Part Wise Email
8. Birth Month Wise Student
9. Course Part Term Wise Fee Collection
10. Course Part Wise Not Inward
11. Student Wise Document
12. Faculty Wise Fee Collection
13. Course Part Wise Physical Disability
14. Religion Wise Cast Statistics
15. State Wise Student
16. Course Part Wise Marital Status
17. Guardian Occupation Summary
18. Gender Wise Social Reservation
19. Qualification Summary
20. Division Wise Student Strength
21. Paper Wise Student Strength
22. Paper Wise Division Wise Student Strength

Graphical Statistics Reports

1. Admission Statistics
2. Roll No and Division Allocation Statistics
3. Eligibility Statistics
4. Transfer Statistics
5. Fee Collection Statistics
6. Course Statistics
7. Comparative Analysis Updates Installed
8. Comprehensive Informatory Report

Fee Management Reports

1. Course Wise Total Fee Reports
2. Collected Fee Register Reports
3. Course Wise Receipts Reports
4. Course Wise Student Fee
5. Cancel Receipt List Reports
6. Student Receipt Reports

Time Table Management Reports

1. Course Wise Weekly Time Table
2. Course Wise Monthly Time Table
3. Teacher Wise Weekly Time Table
4. Teacher Wise Monthly Time Table
5. Teacher Wise Work Load
6. Course Wise Work Load
7. Weekly Work Load
8. Daily Work Load

Other Utilities in Digital College

1. No objection Certificate
2. Character Certificate
3. Bona fide Certificate
4. ID card
5. Transfer Certificate

Examination Reports

1. Inward Examination Form Statistics
2. Student Summary List
3. Exam Form Statistics
4. Download Examination Hall Ticket
5. Examination Form Submission
6. Blank Mark List
7. Paper Wise Name List
8. Physically Challenged Student List
9. Student List By Venue
10. Reports for Venue
11. Download Examination Hall Ticket
12. Daily Paper Report
13. Paper wise Student Name List
14. Physically Challenged Student List
15. Paper Wise Attendance Sheet and Junior Supervisor Report

Services to University through Digital University® Framework

Web Portal

1. Dynamic Menu and Multilingual Content Management
2. Role based Messaging System
3. Organization Structure management
4. Meeting Management
5. Calendar Management
6. RTI Compliance
7. Suggestions
8. Feedback and Complaints
9. University Photo gallery

Academics Management

1. Course Structure Definition
2. Evaluation and Assessment Structure Definition
3. College Affiliation/Institute Recognition Management

Eligibility and registration Management

1. 16-digit unique PRN (Permanent Registration Number of students)
2. SMS/Email communications
3. Student Profile Management

Messaging

1. Internal messaging services to users
2. Rule based messaging
3. Fixed Inbox size provided to every user

Meeting Management

1. Meeting agenda generation and availability in personal inbox
2. Minutes of Meeting reports
3. Facility to take points from last MoM for further meeting agenda
4. List of attendees

Robust MIS

1. Data synch between University and colleges
2. Student data upload/download by University and Colleges to supply statistics and figures in over 125 types of standard reports for administration and authorities

Examination Management module

1. Examination Scheduling/Time-Table Management,
2. Exam forms and their Inward,
3. Exam Fee, Center/Venue
4. Hall Ticket and Seat Number Management and information system providing various reports to help in conduction of examination

Assessment Data Entry Software

1. Facilitating centralized/distributed data entry of assessment data
2. Coding/decoding of answer books
3. Blank Mark-lists
4. Checklists and other important reports

Result processing and certification using centralized result processing engine

1. Offers Data verification and validation
2. Result processing and ordinance application
3. Generation of statement of marks
4. Result register/ledger
5. Passing/provisional certificates
6. Result statistics and press reports

Sr. No.	University Name	Total Colleges in University	Total Colleges under Digital University Framework	% of Colleges Digitally Connected	Count of total students admission in University in First year of course part (Academic year 2010 -11) Approximate Count	Count of First year student admissions facilitated through Digital University Framework (Academic year 2010 -11)	eSuvidha made available to % Students	Overall Students facilitated till academic year 2010 - 11
1	Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur	774	566	73%	1,25,000	1,06,957	86%	1,52,971
2	Shivaji University, Kolhapur	260	242	93%	1,10,000	81,036	74%	2,55,235
3	Dr. Babasaheb Ambedkar Marathwada University, Aurangabad	357	242	68%	1,26,552	64,447	51%	3,37,387
4	North Maharashtra University, Jalgaon	230	180	78%	55,000	52,520	95%	1,76,802
5	YCMOU, Nashik	3,300	2049	62%	95,000	70,247	74%	6,11,284
6	Mumbai University, Mumbai	605	379	63%	2,03,099	1,54,000	76%	6,06,746
7	Solapur University, Solapur	124	110	89%	40,000	32,000	80%	1,60,514

ENCLOSURE 4

Role of NSS in Rural Development: A Case study of University of Pune, (Pune, Ahmednagar and Nashik Districts)

N.S. Nikam, Principal, C. T. Bora College, Shirur, Dist. Pune.

Abstract

Rural community is a major and crucial part of India from development perspectives. Indian economic development is vitally based on the rural economic development. The rural development can be achieved through various activities such as watershed development, soil and water testing, conservation of resources, tree plantation and conservation, organic farming, forestation, planning of land use, planning of cropping pattern, nursery forest and medicinal plant, awareness about conventional energy resources, cleanliness and ground levelling, soak pits, etc. These all activities are organized through National Service Scheme.

The paper attempts to assess the role of NSS in rural development through the winter camp activities that are organized by the University of Pune with special reference to Pune, Ahmednagar and Nashik districts. This paper covers the secondary data of various activities organized in these three zones by different NSS units, University of Pune. It has been observed that the value of total work is Rs. 5 crores 95 lakhs during 2007-08 to 2009-10. It shows efforts have to be made for rural areas for improving social and economic condition of the rural community and students can contribute to the social development.

Objectives

1. To underline the various development-based activities implemented by different NSS units during 2007-08 to 2009-10 of the University of Pune
2. To assess the contribution of NSS in rural economic development
3. To explain the role of NSS in social development of rural community

Methodology

The paper attempts to assess the role of NSS in rural development through the winter camp activities that are organized by the University of Pune with special reference to Pune, Ahmednagar and Nashik districts. This paper covers the secondary data of various activities organized in the three zones by different NSS units, University of Pune.

Results and Discussion: Special winter camps are organized to encourage the students to work along with the citizens in rural area for the overall rural and national development.

Summary of NSS contributory Data

Sr. No.	Year	Total No. of Colleges	Volunteers	Participants in Winter Camp	Value of Work (Rs)
1	2007-08	240	35,000	19,300	1,75,00,000
2	2008-09	252	40,000	20,000	2,20,00,000
3	2009-10	289	44,000	22,000	2,00,00000
4	Total	781	1,19,000	61,300	5,95,00000

Table No. 1 (Source: Yuva Sankalp Annual Report 2007-08, 08-09 and 09-10)

The above table shows that there is continuous growth in the number of NSS units as well as the number of volunteers from 2007-08 to 2009-10. The number of winter camp volunteers is also respectively increased during these three years. The remarkable increase in value of work is also notable.

Year 2007-08

Main theme in this year was “Samarth Bharat Nirmal Gram Ahbiyan. The idea of “Samarth Bharat Abhiyan” was initially introduced by Dr. Narendra Jadhav, Vice Chancellor, and University of Pune in 2007-08. Under this programme, different activities were organized by different NSS units such as GIS Training Workshop, Soil and water testing workshop, Hagandari Mukti awareness programme, Disaster Management Training Workshop, tree plantation etc.

In 2007-08, 242 NSS Winter Camps are organized in Pune, Ahmednagar and Nashik districts. Participation of volunteers was notable, 19300 volunteers participated in these winter camps. In these various camps the value of completed work was Rs. 1crore 75 lakhs. The completed works in number are – construction of toilet (4692), soak pits for toilet (23,200), soak pits (43,900), farm lakes (28), Continuous Contour Trenching (22,000 m) and road construction (11000m).

Year 2008-09

The theme of the winter camping programme in the year was 'Nirmal Gram Abhiyan'. In this year the activities and programs were organized for awareness from different perspectives. Special projects completed in this year were Nirmal Gram Abhiyan, Environment Awareness Programme, Cleanliness and Energy Conservation Awareness. The physical works were also completed in large extent. Actual completed work was valued Rs. 2 crores. In this year 252 colleges participated in special winter camping programme. Out of 40,000 volunteers 20,000 volunteers participated in winter camps. Different programs were organized such as CCT (2506m), plantation(10,000), construction of sanitary latrines (8,000), toilet pits (10,000) Vanarai Bunds (22) etc.

Year 2009-10

Organized programs and activities in this year have the same perspectives like the previous year. In this year 289 winter camps were organized by the colleges of university of Pune. Out of 44,000 volunteers, 22,000 volunteers participated in winter camps. In this year the activities were organized from different perspectives such as GIS mapping, soil and water analysis, environment enrichment and conservation biodiversity, women empowerment, history writing, socio-economic survey of villages, small saving groups etc.

The physical works were completed in large extent. Actual work was valued at Rs. 2 crores in this year. To achieve the aim of this year, special focus was given on the construction of toilets and Sanitary Awareness Programme. During camp period, 8,800 toilets, 249 blood donation camps and 10,000 toilet pits were constructed. The special activities were conducted to create awareness about Hagandari Mukti among 195 villages. The mission of Nirmal Gram was successfully completed in 35 villages.

Conclusion

All the above programs and activities are organized in villages for the rural development. All these programmes are social service oriented as well production oriented. The notable thing is that in all these activities youth power is well directed and utilized through NSS activities and programmes. It has been observed that the value of total work is Rs. 5 crores 95 lakhs during 2007-08 to 2009-10.

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